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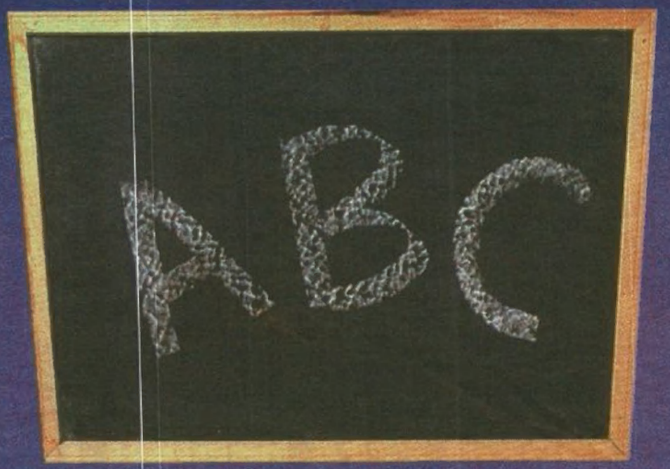

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June 2002

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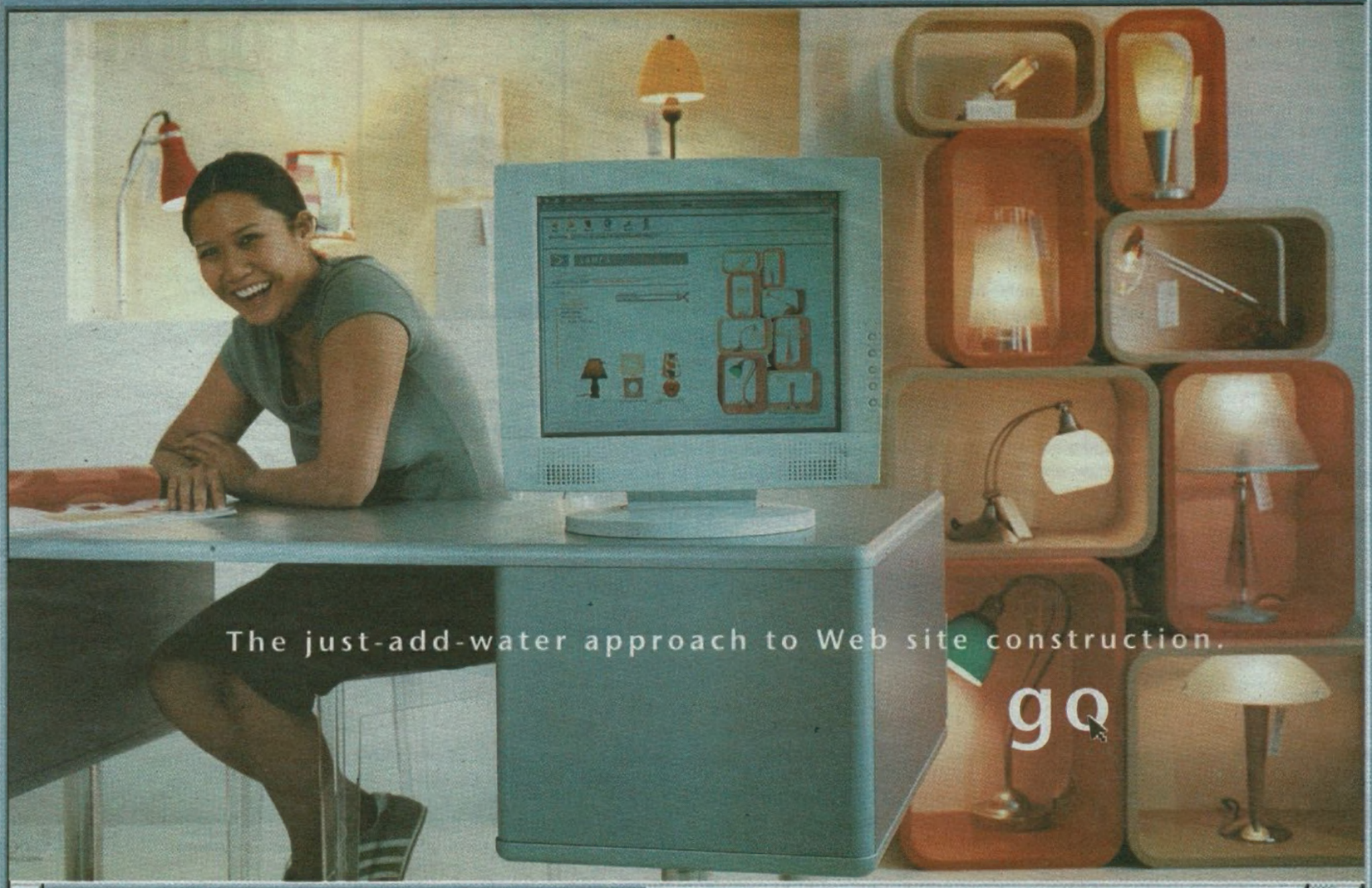

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From the editor

Garage sales can often be a good source for used computer systems, components and supplies. Prices tend to be really cheap, although sometimes a stubborn seller will insist that the ancient 486 system you just glanced at is worth one hundred dollars because it comes complete with a dilapidated dot-matrix printer.

I don't have a bad history of collecting computer parts at garage sales. I picked up a network-capable dot-matrix printer for five bucks awhile ago. For a couple of bucks I got SCSI hard disk enclosures with miniscule, by today's standards, hard disks. Every time I see some computer stuff laid out at a garage sale I tend to check it out.

It was thus that I picked up three SCSI cables for a dollar each at a garage sale this spring. SCSI is short for Small Computer Systems Interface and is pronounced scuzzy. SCSI cables have always been very expensive. While I have quite a few of external devices, three hard disk enclosures, a scanner, a 2x CD-ROM drive, a Syquest Drive and a 3.5 inch magnetic-optical drive. These all attach to my beige G3 Mac, but until I bought the cables at a garage sale, I could not daisy chain them. SCSI cables are very expensive, usually starting at about 20 bucks. I could never bring myself to pay more for the cable than I paid for the actual device.

Getting these cables I figured I would have everything connected. I put new, scavenged, SCSI hard disks in the enclosures and connected everything together.

Unfortunately, the simple act of connecting everything together proved not so simple. The computer did not start up. I checked every cable individually and they all worked fine. I checked every device individually to see if it worked and they did. While performing the latter test, I realized that I had SCSI ID errors.

Every device on a chain has an ID number between 0 and 7. On Macs 0 and 7 are saved for internal workings so should not be used for external devices. 3 is used for the CD drive, weather SCSI or not, and 5 occasionally conflicts with the PCI slots. So you actually can only put four devices on a chain. I spent quite a bit of time finding out the SCSI IDs of all the devices and figuring out how to change them. Since the drives were not standard I needed to play around with the pins to find appropriate ID numbers.

It was about two in the morning when I realized the futility of my actions. I had just spent four frustrating hours trying to get a 240 MB and a 160 MB to work together. The computer has a 20 GB drive. I decided to keep the removable devices but to get rid of the external hard drive enclosures. Perhaps I will sell them at a garage sale

Nestor Gula can be reached by e-mailing nestor@tcp.ca ◆

Reader Feedback

Put the blame where it belongs

I can't help but shake my head after reading S.J. Ross's article about video game violence in your May 2002 issue. Ms. Ross's conclusion that "we would have a better world without violent video games" is naive nonsense. Video games are no different than other forms of escapism like films, plays and books. They are imaginary worlds intended for mature minds.

I had a great time playing *Medal Of Honour*, but I have no desire to fire a real gun or harm anyone. At the same time, my children aren't allowed to play violent games for the same reason they're not allowed to watch *Saving Private Ryan*. Those activities are not appropriate for their ages. It is up to the grown-ups of the world to make responsible choices for themselves and their children.

Put the blame for real world violence where it belongs – with the individuals who commit these acts. Leave the rest of us alone.

Marc Landry

Violence is disgusting

I read the article titled "Gaming: The Horror" in the May 2002 issue of *Toronto Computes!* I have always enjoyed playing violent games. I enjoy the kill. I enjoy the hunt. I enjoy the blood and gore. Now I have grown up (age 25) and when I see the games that my friends play now, it disgusts me. I stopped playing video games because I revolved my life around them. One thing is for sure, when I did play them they were not as graphic as they are now. Now they are overkill. I see female characters that make me wish I was in the game and I see blood and violence that is too much. It's worse than a R-rated movie. And parents are buying these for their children, which makes me quite sad. These game ratings on the boxes are useless. You will always find a parent that will buy it for their children for some reason or another. Anyway, I agree with the writer and just wanted to let her know. As for you, I don't know if you like video games or computer games, but if you don't I would like to see people's awareness heightened with articles like this so that parents and everybody else can understand that violence is all around us and for it to end we need to open our eyes to it so that we can stop it. Thank you.

R. Majere

The Editor *Toronto Computes!*
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Letters on issues raised in the paper or general computer topics are welcome. Please be brief. We regret that we are unable to look up stories from past issues, suggest products, or solve all your computer problems. All correspondence must include your full name in addition to your e-mail or snail-mail address. Letters may be edited for space or content.

Letter of the Month

For his letter this month, Marc Landry wins a copy of Symantec's Norton AntiVirus 2002. Don't let a virus ruin your day. Norton AntiVirus is one of the most popular and effective antivirus packages on the market.

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Insects get to jazz it up

By TOM VENETIS

Free jazz is just not for everyone. Many complain it's just noise (*Ed. – Not this writer!*), like the sound of buzzing, angry insects. Listen closely and these detractors may not be too far off the mark, as a new program allows jazz musicians to improvise around a system that mimics insect sounds!

Researchers at University College London have developed a program that mimics insect swarming and can "fly around" the notes that a musician is playing. And not only does the program buzz the performer, but it also can improvise a little tune of its own around what is being played.

The *Swarm Music* program is the creation of Tim Blackwell and Peter Bentley, who study how natural processes can be modeled in software. They believe that improvised music self-organizes in the same way that swarms of insects and flocks of birds do. The program works by looking at music as a kind of 3-D space, where the dimensions are pitch, loudness and how long a note is held. The program then creates digital particles that swarm around the notes being played by the musician, the same way bees or other insects swarm around a hive or a flower. Once that swarm gets going, the program converts those digital particles into musical notes that some say are hard to distinguish from an actual person playing.

Now if that program can only convince people that free jazz is not just noise!

The totalitarian home of the future

There has got to be something in the Geneva Convention against this.

The Dutch electronics firm Philips has come up with a "home of the future" that makes the setup of Big Brother seem almost pleasant. Usually when a company wants to test out some new consumer gizmo, they simply give it to some people, ask them to try it out for a while and then have them say what they thought about the gadget. But Philips thinks this is all wrong.

Instead, it has come up with HomeLab, a two-story house equipped not only with a variety of controls and displays of the technologies they want to test, but with some 20 hidden video cameras around to record what exactly the people are doing! George Orwell would be proud.

But here is the kicker! These "gadgets" will actually be computer simulations that will be updated in real time. The designers can change the gadgets to see how people will react, making improvements to usability and design. One such gadget that is being tested in the home is an intelligent bathroom mirror that is actually a thin LCD screen covered with a thin layer of semi-reflective foil. So while someone is shaving, that electronic mirror could bring up a small video screen to show the day's news broadcast, a favourite television program or even some bit of helpful advice (*Ed. – Such as: "You look like hell in the morning" or, "You need to lose some weight."*).

Even the children's room is not off-limits, as it comes equipped with a video projector and sound system allowing the kids to project pictures onto the walls and add accompanying music. One can imagine what a teenager might want to project on their walls.

Coke auction goes online

Coca-Cola Canada has launched a national cashless auction whereby drinkers of Coke can collect "Coke credits" that can be used to bid on a variety of items. The credits are behind the labels of specially-marked 591 mL bottles of Coke. To participate, consumers register online (www.cokeauction.ca) and enter the PIN code that is found on the back of each label. Each PIN code is worth 100 Coke credits.

There are four types of auction items that people can bid on: Daily items such as movie passes and music CDs; Buy Now items that will be available for as limited time and include such things a movie tickets, video rentals, magazine subscriptions and deals on certain restaurants; WOW items such as a trip to Switzerland or a recording session; and Blitz items that will be offered at random times and can only be bid on for a short while.

Broadband duopoly proposes download caps

By ANDREW MOORE-CRISPIN

The recent announcement by Bell Sympatico that they will be instituting download/upload caps has some broadband users up in arms.

While Rogers hasn't made any official announcement other than the introduction of a less expensive, scaled back 'lite' service, caps of around 5 or 6 gigabytes a month in line with Sympatico's plans have been as good as confirmed.

Bell Sympatico has officially announced that new and existing users will be subject to monthly caps as of June 20. Bell Sympatico's current DSL service will be subdivided into three categories, which they bill as "more personalized choice and control":

High Speed Ultra – where users pay $69.95/month for 3Mbps upload and 640Kbps down with a 10 GB download 10 GB upload cap.

High Speed Standard – Which carries the same price tag as current unlimited Sympatico service, but comes with a 5 GB upload 5 GB download cap.

DSL Basic – A seriously scaled back offshoot of the Standard service, with 1 GB up 1 GB down limit, and a speed about twice as fast as the best dial-up.

Under Bell Sympatico's new pricing scheme, users who go over their monthly cap will pay an extra 79 cents per 100 MB on all rate plans.

Sympatico says 92 per cent of users won't be affected by the caps, as they download only about 1.5 GB a month.

Other ISPs that offer DSL service in Ontario and the GTA:

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Behind the magic of Cirque du Soleil

By NESTOR GULA

Few, if any, Canadians are unaware of Cirque du Soleil. From its humble origins in 1984, when a group of street performers organized themselves, it is now a genuine Canadian success story. Wherever Cirque du Soleil performs it gets a packed house and critical praise. There are eight Cirque shows being performed around the world, including two permanent shows in Las Vegas and one in Walt Disney World in Florida. Over 500 artists from more than 40 countries perform in these shows, making Cirque du Soleil truly a global phenomenon.

Varekai is Cirque du Soleil's latest production. It is the 14th live production from the company. Meaning "whatever" in the Romany language of the Gypsies, the show is meant as a tribute to the nomadic soul. Filled with Cirque's trademark dazzling acrobatic feats, fantastic stage design and outlandish costumes, the show does more than amaze. Behind the 50 or so artists that the audience sees and applauds, there is an army of people working hard, making sure that the shows go off without a hitch.

"In the eight years that *Mystère* has been performed at the Treasure Island Hotel and Casino, we have never had a major failure that made us lose a show," boasted Nancy Mallette, technical director for *Mystère* at its permanent home in Las Vegas. The show opened the same day as the casino, December 15, 1993, and although you have to wade through the cheesy Pirate-themed casino to get to the auditorium, the show is both artistically and technically spectacular. You really do forget where you are while being drawn into the show.

Capturing eyes and ears

A stunning feature of each and every Cirque du Soleil performance is the lighting effects. Never garish or overblown, the lights are used to create the right atmosphere for the act. "There are several lighting systems that have to be balanced throughout the show," said Mallette. Conventional, or non-moving, lights are controlled by two specialized lighting boards that are redundant to each other. If one fails, the second one will do the work.

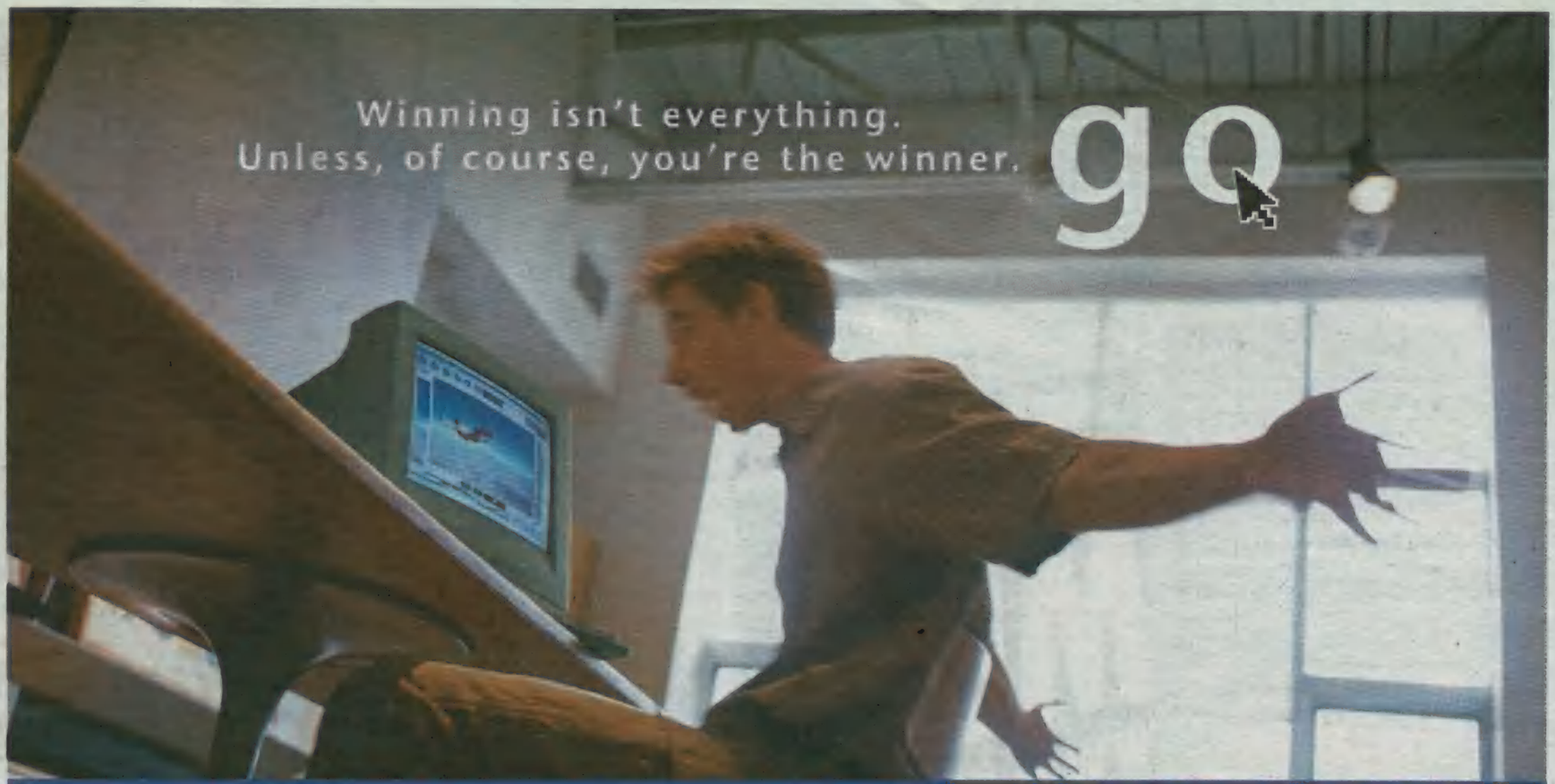
The boards have been preprogrammed – on two Pentium II computers connected to the boards by Ethernet – with about 400 cues that tell all the non-moving lights when to come on, with what intensity and when to go off. The operator triggers the cues as the show goes on, reacting to the script and what is happening on the stage. There is a manual override for all the cues, as well. Moving lights are controlled by another pair of boards. These lights are not spotlights, but highly specialized lights with mirrors inside the fixture. These mirrors move, giving various effects, colours and shapes. There are six follow spot operators at the *Mystère* show. They manipulate large spotlights and are connected to the control room via headsets. "In our case, we use wired headsets because we don't have a need for them to go wandering around," explained Mallette. The lighting director also presides over effects like fog machines, fans, etc. and effects projectors that project still or moving images on the back wall of the stage, or wherever needed.

Another popular aspect of each Cirque du Soleil show is the music, which is performed live. Unlike operas and musicals, where the musicians are tucked in below the stage never seeing what is going on, the band in Cirque's production are situated above the stage with a great view of the proceedings. The band has control over the mix that it hears, but the audience gets a fantastic mix that is unique to Cirque du Soleil. Created by Johnathan Deams, a sound designer for Cirque du Soleil's *Mystère*, the Level Control System (LCS) assigns specific sounds to speakers located throughout the auditorium. The sound operator can manipulate the sound to make it move around the theatre or have different sounds come from different speakers. Think of it like a highly advanced customizable surround sound system, but don't call it that. It's a very advanced way to assign speaker control.

Maintaining momentum

There are an astounding number of things that move in any Cirque du Soleil production. The stage will rise or fall, sometimes splitting in two. The walls will move, the ceiling will fall or fantastic cages with acrobats will descend. All of this is controlled by the automation department. Working out of the headquarters in Montreal, Patrick Chassin, supervisor of acrobatic equipment follow-up, takes care of all the technical equipment that is three feet or higher above the stage floor. Naturally, all the equipment is highly mechanized and controlled by computer. "What the new computerized winches and pulleys bring to the show (as opposed the older manual ones) is smoothness and precision," he explained. "All the cues are preprogrammed just like with lighting." Although there is a high-degree of sophistication with all the shows, there is still room for traditional techniques. Sometimes the effects are produced without the use of high-tech wizardry. At the beginning of *Mystère*, two baby carriages roll on their own power. "I've had people come to me asking if they are radio controlled," said Mallette. "In fact all it is, is a

continued on page 14



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FEATURE

Behind the magic of Cirque

continued from page 10

stage technician underneath the stage with some rope pulling it."

To ensure everything works according to plan, maintenance is not only key – it is religion. "Before every show you run through every cue checking the electronic systems, then a visual inspection of all the rigging." Once a week, when the show does not go on, everything is given a total inspection – basically everything is stripped down and rebuilt. The artists get to relax, but the technical crew toils. Cables from which the performers swing are all logged and replaced frequently. The high-flying bungee acrobats have their bungees replaced at least every week-and-a-half. There are many types of space age materials, such as Kevlar, titanium and exotic resin compounds, used in constructing the aerial cages from which acrobats perform. However, when an acrobat swings over the stage, they are using a standard 4-mm (3/16-inch) steel cable. "It's low tech but efficient," says Chassin. They are always evaluating new materials for use in the show. "We are on good terms with 3M," he says.

With the touring shows, maintenance becomes a problem because of the constant assembly and disassembly of the show. "All machines are made to operate in ideal conditions. This never exists when you are on tour," explained Chassin. "Sometimes it's hot, sometimes humid. It is dry. You have dust. You set up and tear down in mud. These are things you should not do."

A typical touring show is a huge production. There are about 40 trucks, carrying approximately 750 tons of equipment. It takes 10 days to set up a show at a new location – from an empty site to first show. The first seven days are to get everything built and ready. One day is used for adjustments. Another day is taken up by having the artists go through their acts individually and the last day is a full dress rehearsal that is open to the public. Tearing down the location is quicker. "If the last show is on Sunday at 8 p.m., then on Tuesday at 2 p.m. the last truck leaves the site," says Chassin. The whole move is meticulously planned and everything has its box and its spot on the assigned trailer. During both the setup and tear-down, every item is inspected and replaced if found defective.

Varekai is on a three-year North American tour. It will finish its run in Montreal's Old Port on June 16 and be in Quebec City starting June 27, followed by Toronto on August 1. More *detailed information can be found at* www.cirquedusoleil.com. ◆

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FEATURE

Exotic places and events located locally

By SAMSON OKALOW

Looking for something to do? Sure, you could try visiting Niagara Falls. The CN Tower – yes, it's still standing. Canada's Wonderland. Yeah, you could do that. There are only two problems here: You've been there. You've done that. It's time for something different, something unusual.

Here are six places and things to do that fit the bill. And each has a Web presence so you can check it out before you take the plunge or make the pilgrimage.

Hempfest 2002

This roughly translates into "festival of marijuana" and for those of you so inclined, this annual, three-day event at Ophir, Ontario (just outside Sault Ste. Marie), promises plenty of relaxing activities. Organizer Rob Waddell of Planetary Pride, a hemp store in the Soo, says over 500 attended last year, coming from across North America and even the Bahamas. As in 2001 this year's theme centres on medical marijuana. Forty bucks gets you entrance to the campgrounds, plenty of live entertainment and a Saturday night dinner featuring hemp ice cream for dessert. Says Waddell, "It's all love and peace and harmony – everybody coming together, meeting friends that they've met on the Internet but have never spoken face-to-face with."
(www.planetarypride.com/hempfest2001)

Toronto Online Film Festival

Co-founder Zubin Hooshangi admits the title is a bit of a misnomer. He says, it's "branding for where we see the future going." You won't see entire films from the over 1,000 entries this digital filmmaker's mess hall receives put up online. "The online aspect is strictly to take snippets from filmmakers and thereby market them and get the voice out there that they need," explains Hooshangi, a film editor by trade. "We still encourage people to go out and see it cinematically on the big screen." The festival hands out seven awards in various categories, in addition to its novel Digital Gun awards. About 5,500 people turned out for screening last year; the TOFF expects to double that this September without the impediment of 9/11, which in 2001 forced the festival to reschedule in only its first year of existence. Screenings are at the Bloor Cinema and the Cinesphere (that's right – digital film projected to the IMAX screen's full six-story height). September 16-18. (www.torontoonlinefilmfestival.com)

Rendezvous With Madness Film Festival

Now in its 10th year, this is filmmaking with yet another twist, if the other mainstream fests are just too passé. There are no competitions here, just 50+ films dealing with issues of mental illness. Scheduled for November 8-17, it's still some time off so many details have yet to be cemented but look for audience discussions following screenings and talks by the Toronto Star's Geoff Pevere, various filmmakers and mental health experts. Director of Research Joanne Huber says the festival continues to reach out. "Last year we actually had our first country-themed project – we did a Polish Canadian night and got a lot of people from the Polish community out for that," she says. More information is available at www.rendezvouswithmadness.com.

Elliott Avedon Museum and Archive of Games

Over 2,000 games. What's not to like? According to Elena Ignatov, museum researcher/technician, the select bunch who stumble upon this little known gem typically have the same reaction: "They're wowed. This is the only museum in North America dedicated exclusively to games. People are really amazed at how much we have." The games are of all types and eras – from ancient board games to modern-day video games. The fragile ones are kept behind glass but at all times there is a selection of between 10 and 15 games that visitors can actually play. Changing its theme every six months, the museum has recently featured exhibits focusing on games of skill and chance and puzzle games. Ignatov's current favourite is the cronkinole exhibition, which features over 100 boards. Located at the University of Waterloo, the museum also boasts an exhaustive, searchable online reference (pictures, the ethnography of games, etc.) to all things game-related that is by itself a

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FEATURE

Exotic places and events
continued from page 16

priceless treasure. Best of all, it's free to visit (donation suggested). (www.ahs.uwaterloo.ca/~museum/)

Blazing Archer VI

What man (yes, and some women – don't be shy) doesn't have childhood recollections of putting together model rockets and launching them into the sky? Well, some people never stopped. And if you feel like reliving the moment, why not take in the Blazing Archer rocket launch event – now in its sixth year – at CFD Mountainview near Belleville, Ontario? Bill Wagstaff heads the Ottawa Rocketry Group, affiliated with the Canadian Association of Rocketry, and says Blazing Archer is where "you'll find people bringing out the very largest hobby rockets you'll see flown anywhere in eastern Canada." Very well and good, but we all know the reason people turn out is to watch the rockets crash, right? Says Wagstaff, "I guess nobody in the community would admit that was why they came ... but it certainly is one of the interesting things. People are generally impressed when something big thunders in from a couple thousand feet up." There is no charge to spectators so feel free to go up and make a camp of the two-day Labour Day weekend event as do the participants, but be warned – it is a military airfield so there are no picnic tables. How do you get there? This gem from the Web site should answer it: For those travelling via ICBM, dial the following coordinates into your INS: N44 04 10 W77 20 17. (www.ottawa-rocketry.org)

Ex Libris Gallery and Sculpture Garden

So Niagara Falls is not all bore, after all. While others are busy staring at water falling over a cliff, the curious can take a break and head for this unique expression of art in nature. Sculptor Uga Drava opens (by appointment only) his Niagara Escarpment home and studio to visitors who'd like to view in toto his large-scale works of granite and bronze as well as the works of others. The landscaping is breathtaking, to put it mildly. There is also a gallery on site featuring paintings and graphic works by artists from around the world and which also serves as residence to visiting artists. (www.ugadrava.com) ◆

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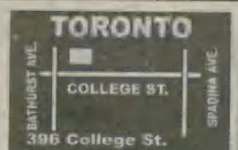

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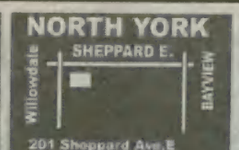

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Reading and writing: Combination drives

By DAVE CHAPPELLE

If they don't already have one, almost everybody wants what's known colloquially as a CD burner (CD-R; for CD-wRiter). And CD-RW (Re-Writeable CD drives; don't confuse with Read-Write, although they perform both) offers the additional feature of burning once-only CDs as well as erasing and overwriting on re-recordable media.

What are the advantages of a DVD-ROM (Digital Video Disc Read Only Memory) drive over a traditional CD-ROM (Compact Disc-Read Only Memory) drive? Well, they read CDs and you can use one to watch DVD movies and videos, as well. As applications grow in size and complexity, we'll see more installation software on DVD instead of CD.

DVD-ROM drives don't cost much more than CD-ROM drives, and if you have a limited number of 5.5-inch drive bays, a DVD drive can perform double duty.

So, if: 1. DVDs are more versatile than those that only read CDs; 2. Re-writeable drives are more versatile than write-once drives; and 3. Drive bay space is at a premium in many new system cases; then it stands to reason that a DVD/CD-RW combo drive makes a great deal of sense.

Hence, that's what we've chosen to review this month in the Test Lab. Combo drives offer a better "bang for the buck."

For those with greater aspirations (and budgets to match), there are DVD-Recordable and Re-Writeable drives. DVDs are capable of storing 4.7 GB of data, versus the hundreds of megabytes of a CD or single megabyte of a floppy disk. The additional option of storing and/or distributing your own digital videos is certainly a great feature.

Recordable DVD drives are still rare among consumers. The added functionality adds significantly to the price. DVD-R and DVD-RW drives are still pricey, in some cases with retail prices greater than those for entire computer systems. Like almost everything else in the computer world, we expect prices to drop as they gain greater acceptance.

We tested three of each combo drive. Our tests were conducted on an Athlon 1200 with 256 MB DDRRAM, a GeForce3 display adapter with 64 MB RAM, and a Gigabyte GA-7DX motherboard, running Windows XP. After each drive was tested, the system was restored to original configuration, courtesy of a ValtX (www.valtx.com) storage firewall.

All the drives played DVD movies very well. If you're used to watching an older television or VHS tapes, you might not want to go back after seeing digital effects, especially through a fast system with quality video adapter and flat panel monitor.

In one way, copying with XP proved to be a treat. Especially after installing the latest patches, XP often recognized the drives without the sometimes painfully frustrating process of driver installation. WinXP includes Roxio CD creation software, *Adaptec EZ CD Creator*.

A consideration when making CDs is the software used for the process. Currently the two most popular programs are *Roxio Easy CD Creator*, and *Ahead Nero Burning ROM*.

Many prefer *Nero*, especially with other operating systems, but we had issues with *Nero* and XP when writing CDs. Data discs were completed quickly, but the results were useful only as coasters. Web surfing was also very slow during the burn process. It was impossible to close the original *Nero* window, preventing the use of other applications. Most likely this apparent incompatibility had something to do with the version of *Roxio* already built into XP. *Nero* runs fine on some XP systems, but wouldn't on ours. More on this in a future issue.

During our tests we cancelled one write job and the system locked up totally, requiring a reset. This was the only time.

Nevertheless, to run at maximum write speeds we installed the CD-writing software and drivers that came with each respective unit.

Recording Media

When writing CDs we used name-brand CD-R media. Even though one drive was capable of copying at 20X, name brand media is only guaranteed up to 16X. If you buy a faster drive, be careful when considering purchasing bulk media. At best it will only be guaranteed up to 12X. Your drive/system/software combination may or may not work fine at higher speeds with inexpensive media. Try a few out first before you plunk down your hard-earned cash for that seemingly great deal on 100 discs.

Why test copying at the fastest possible speeds? Since the emergence of consumer-level CD-writers in the mid 1990s, the dreaded buffer under-run has been the bane of the user's existence. How many of us have spent a ton of money on the fastest burner, only to discover that it was too fast for our system? We often had to write CDs at mere double or single speed, unless we were willing to risk creating yet another coaster.

Access times for memory and hard disks is faster than for optical drives, so newer drives copy faster by first placing an image of the source disc in memory or on the hard drive.

We actually tried to create write errors, by attempting other tasks during the writing process. While it's nice to be able to do something else while a disc is being written, it's better if that something else you're doing doesn't require your computer.

To test the abilities of each drive, we copied the same data and music CDs, both disc-to-disc. Of course we were not breaching the license agreement by making backup copies. Please don't make illegal copies of commercial software or recorded works.

DVD/CD-RW Drives

Panasonic CW-8572-C
16X CD-R, 10X CD-RW, 40X CD-ROM, 12X DVD
Estimated price: $199
One year warranty
www.panasonic.ca

Within hours of arriving in Canada from Japan, this prototype drive was hand-delivered to the Test Lab by Panasonic officials to meet our deadline. It should be available nationwide by the time you read this.

In a departure from traditional computer beige, our sample drive was pleasant medium grey colour.

We were provided with recent versions of *Nero* and *Creator*, but what other software might be bundled with the CW-8572 has yet to be finalized.

Our data disc was copied in a very respectable 6:20; the music disc in 9:56. The drive performance was very good, and the resulting discs were of excellent quality.

Panasonic is planning to release an external version of this drive, with both FireWire (IEEE 1394) and USB 2.0 capability.

Plextor PlexWriter PX-320A
20X CD-R, 10X CD-RW, 40X CD-ROM, 12X DVD
Estimated price: US$179
One year warranty
www.plextor.com

Way back when blank CDs cost $15 to $20 each, a Plextor drive was considered state-of-the-art and was the CD-ROM drive of choice for those with the money for one.

Current Plextor drives include Burn-Proof technology, trademarked by Sanyo, which helps prevent internal buffer under-runs.

In the box with our sample drive were a manual, mounting screws, drive opening tool, blank CD and blank CD-RW. On the software CD were *Roxio Easy CD Creator 5*, *SimpliCD*, *Liquid Player* and *Power DVD*.

Our test data disc was completely copied in 4 minutes 15 seconds, our music disc in 6 minutes. These were the fastest successful completion times of our roundup.

Samsung SM-308
8X CD-R, 4X CD-RW, 32X CD-ROM, 8X DVD
Suggested retail price: $189
One year warranty
www.samsung.ca

The SM-308 is basically last year's model. By the time you read this, Samsung will have released the SM-316, at 16X CD-R, 10X CD-RW, 40X CD-ROM reading and 12X DVD-ROM reading. Unfortunately, the SM-316 had yet to reach us by deadline. Specs are available at www.samsungusa.com.

Our SM-308 came with IDE and audio cables, *Roxio Easy CD Creator* and *Power DVD*, driver software, mounting screws and manual.

We connected the drive, and without

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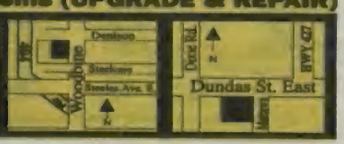

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Reading and writing:
continued from page 20

all the writing upgrades of WinXP, dragged and dropped the entire contents of a CD. The SM-308 burned a working backup copy in 9:38 without any problems.

Using the included version of *Easy CD Creator*, there was no change in the write time, while the music CD copied in 18:34.

Anyone who has ever sat patiently waiting for a CD to burn, only to discover when finished that they are the proud owner of a brand new coaster, will appreciate a drive that makes flawless copies. The soon-to-be-released SM-316 should continue the reliability, with the added benefit of shortened burn times. For those who don't require the fastest, the public release of the SM-316 should help prices of the SM-308 drop, providing that model is still available.

DVD-RW Drives

HP DVD200i
12X CD-R, 10X CD-RW, 32X CD-ROM, 8X DVD-ROM, 2.4X DVD+R and DVD+RW
Estimated price: $749
One year warranty
www.hp.ca

Manuals, IDE and audio cables, mounting screws and different blank media accompanied the drive. Several programs were included, such as *Sonic MyDVD, ArcSoft Showbiz, Veritas RecordNow, Cyberlink PowerDVD* and *MusicMatch Jukebox*. If additional hardware is purchased, VHS tapes can be copied to DVD using the software.

The HP copy program warned us about performing any other tasks during the copy process. We ignored the warning and surfed the Web with no problems. The data disc finished in 9:45; the music disc in 12:02.

Copying some data files to DVD also proved a fairly easy task. The manual takes even a first-time user through the entire process. As the HP manual states, the 4.7 GB of storage provided by the DVD writeable and re-writeable discs approximates the storage area of 3,263 floppy disks.

An external version, the DVD200e, is available for $949.

Lacie DVD/CD ReWritable
8X CD-R, 4X CD-RW, 24X CD-ROM, 4X DVD-ROM, 2X DVD-R
Suggested retail price: $999
One year warranty
www.laciecanada.com

An external drive is the answer for users wanting to burn discs in multiple locations, in remote locations and those without or unwilling to give up a 5.5-inch drive bay. The extra case and power supply add to the initial price, but this versatile drive makes up for that with DVD writing ability.

Our evaluation unit was a FireWire (IEEE 1394) model, but a USB 2.0 version is also available. For FireWire support, Mac users are ready, but PC users must be running Windows 98SE or later. We installed an Adaptec 4300 card in our test system for this purpose.

The drive itself resides in a case finished in traditional Lacie blue. A manual and FireWire cable were in the box, as was a software bundle of *PowerDVD, Veritas PrimoDVD* and *Sonic myDVD*.

The combination of XP and *PrimoDVD* gave us one minor hiccup when both refused to believe we had changed source disks. A restart cured it.

Our data CD was copied in 9:48, and the audio CD in 12:47.

Pioneer DV-A04
8X CD-R, 4X CD-RW, 24X CD-ROM, 6X DVD-ROM, 2X DVD-R
Suggested retail price: US$499
One year warranty
www.pioneerelectronics.com

Pioneer enjoys a well-deserved reputation for quality home and car entertainment equipment. Though seldom mentioned with computer systems, Pioneer has been lesser known for making quality specialty drives, and this one proved to be very good.

Along with a manual and mounting screws, *MyDVD, PowerDVD, Veritas DLA* and *DVDNow* were on the software CD.

Using *Record Now DX*, our data CD was recorded in 9:56, the music CD in 12:03. As we began, the program warned us about performing other tasks during recording.

While we could move the recording task window around the desktop, we couldn't do anything else during the recording process. That's an excellent, and truly foolproof method, of preventing a user from interfering with the burn process. ◆

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RULES AND REGULATIONS

1. You may submit up to three (3) original compositions. Each composition submitted must be your own original work. Compositions may not exceed five (5) minutes in length. A completed and signed application must accompany each entry. Contestants must submit all entries as MP3 format and burned on a CD-R. CDs will not be returned. Compositions previously recorded and released will be disqualified. Compositions using samples of previously recorded material will be disqualified unless accompanied by a release waiver from the original artist.

2. This contest is open to amateur unsigned acts. All genres of music will be considered. Employees and families of *Toronto Computes!*, its parent company, subsidiaries and affiliates are not eligible. Contestants must be Canadian citizens or have landed immigrant status.

3. Winners will be chosen by a select panel of judges and will be judged based on melody, composition and lyrics (when applicable). The quality of performance and production will also be considered.

4. The first place winner will have first choice from the prize pool. The second place contestant will have the remaining prize. Honourable mentions will be awarded as the judges see fit.

5. By submitting compositions and the signed entry form to this contest the entrant claims that their composition is original work and he/she holds all rights to the composition. The contestant also agrees to give *Toronto Computes!*, its parent companies and subsidiaries the non-exclusive right to use the compositions for future advertising and publicity purposes without additional compensation for a period of two (2) years from the date of the contest's closing date.

7. All entries must be postmarked by 5 PM EST August 2, 2002. Winners will be chosen by August 16, 2002. Winners will be contacted for their choice of prize. Results will be announced in the September issue of *Toronto Computes!*

8. All decisions of the judges are final.

9. Mail entries to *Toronto Computes! Cool Tunes Contest* 621 Church St., Suite 600, Toronto Ont., M4Y 2G1

APPLICATION FORM

Name: .....
Address: .....
Postal Code: .....
Phone: .....
E-mail: .....
Age: .....

Occupation/School: .....
Title of entry: .....
Equipment used to record *Composition*: .....
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Digital Studio bundles useful tools

By NESTOR GULA

There are many productivity suites out there. Most deal with office applications – word processors, spreadsheets, databases and the like. There are not many that deal with the creative side of life.

Extreme Media Digital Studio (*EMDS*) is such a bundle. Released by The Learning Company through its Broderbund label, this suite of applications purports to be a digital video studio in a box. The box proudly claims, "Capture, create, edit, produce and burn. It's easy." The mantra of "It's easy" appears throughout the box. Unfortunately, *EMDS* is not a truly integrated suite. What you get are five distinct applications that can all be accessed via a special Digital Studio Launcher: MGI's *VideoWave 4SE* for video capture and editing, MGI's *PhotoSuite 4SE* for photo manipulation, CakeWalk's *Pyro 1.5* for ripping and burning music CDs, NTI's *CD-Maker Plus v.5* for burning CDs and *The Print Chop CD Label Creator* to create labels for CDs and CD cover art.

EMDS is aimed at the rapidly growing home digital video editing market. MGI's *VideoWave 4SE* software is a good choice for an entry-level video editing package. However, this application is a generation old, as MGI released the fifth version of *VideoWave* near the end of 2001. On the plus side, the only significant difference between the two versions is that the new version gives you DVD and VCD (Video CD) authoring capability. The version of *VideoWave* included in *EMDS* does allow you to save your completed videos in the proper format, it just does not do the authoring. The basic application remains and you can capture your video (it will even capture analogue video signals if you have the right connections), edit it with transitions, special effects and even add colour effects.

PhotoSuite is a fairly basic photo editing application. It will do what 90 per cent of the home user needs to do to use scanned/digitized photos in projects they're working on. The built-in red-eye reduction is nice, as this is the bane of many family photographs. There are 25 special effects and a great tool that lets you create slide shows of your photographs that include transitions, sound and even an MP3 soundtrack.

What bothers me about digital music programs is the misuse of the word record. The notes on the box say you can record music – you can't. You can rip music into MP3s from CDs and other media, like LPs or cassettes, but CakeWalk's *Pyro* is not a music-editing package. It is a great tool that lets you convert music files from one format to another easily and create music or MP3 CDs, but it is a mistake to use the word record. Nonetheless, *Pyro* is a very powerful package for music management and is a great addition in this package.

Although you can use *Pyro* to burn CDs, the included CD burning software is more flexible. NTI's *CD-Maker Professional Edition* is an excellent application. It burns all types of formats including VCDs and therefore makes up for the older version of *VideoWave*. It is easy to use and, on a personal level, recognized a CD burner of mine that no other software had previously. This software is a keeper.

Although it is quite basic, *The Print Chop CD Label Creator* makes the creation of labels easy. There are over 1,000 templates, over 10,000 images and various text effects that you can use. The sum of the *EMDS*'s parts are strong and combined with a fairly low price, this package is well worth it for anybody getting into digital video. ✦

more INFO

Extreme Media Digital Studio
$120.00
Broderbund
www.brodurbund.com

Requirements:
Windows 98/ME/2000/XP
PC running 266 MHz or faster
64 MB RAM (128 MB recommended), minimum 50 MB free hard-disk space for Digital Studio Launcher
1,024x768 display with High Colour 16-bit (4 MB video memory recommended)
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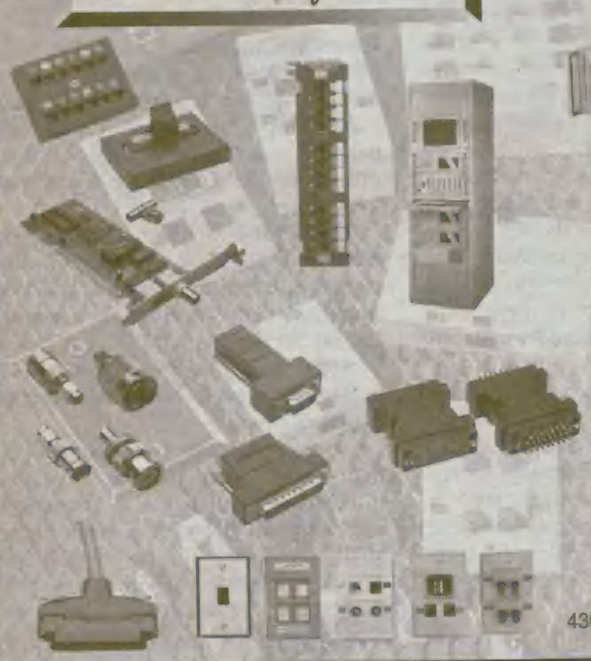

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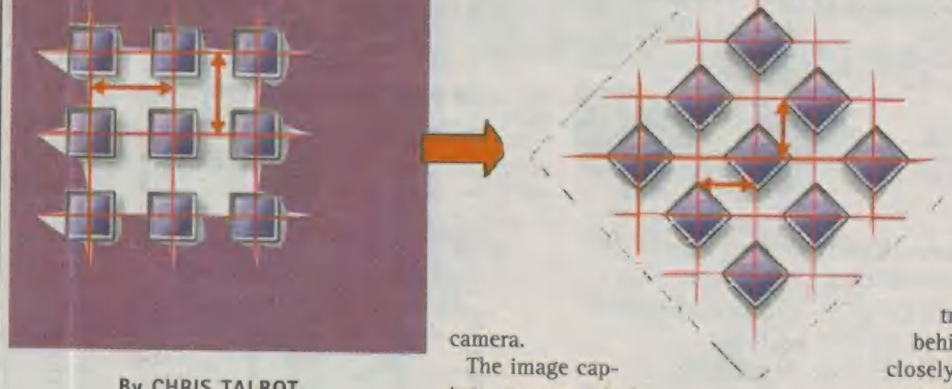
Digital Shots: The technology of CCD



By CHRIS TALBOT

There's more than one type of capture technology acting as the driving force behind digital cameras, but charged couple device (CCD) technology is the most popular form among camera manufacturers.

Without a capture technology like CCD or the less popular CMOS, there would be no digital cameras. According to Jim Jacobs, senior technical manager at Fujifilm Canada, the CCD is the most important component of a digital camera and is at the beginning of the capture process. The CCD is the digital equivalent of film.

In a film camera, the way an image is captured is fairly simple. The film is aligned with the shutter and when the shutter snaps open, the light that shines on the film is captured. Film is developed as negatives and prints are made. Images taken with a digital camera follow the same principle, but there are a lot more components inside a digital camera.

The image capture process starts from the time you snap the shutter. The light that would ordinarily shine on film shines on the CCD instead. A CCD is made up of millions of diodes. Diodes can only see light, not colour. This is fine if you're shooting in black-and-white, but not so good if you want a colour picture. To see colour, a mosaic filter is added to the CCD – one per diode. Each filter is broken up into four parts. Each part sees one part of the colour spectrum. There is one part for red, one for blue and two for green. The reason for the extra green part has to do with how the human eye sees the colour, Jacobs says. (Some manufacturers use the cyan, magenta, yellow, black colour scheme instead of red, green, blue.)

The biggest downside to digital cameras is in something called interpolation. Between each diode are small spaces, and those spaces have to be filled up with something. An algorithm must determine what the best colour would be to fill that space by looking at the colours around it. This has to be highly accurate to get the truest picture possible.

That brings up another complaint among photographers. Colour accuracy is a touchy subject. There are two types, Jacobs says – true to life and memory colour. Memory colour is generally much more vivid than true to life because the philosophy behind it is to create an image that closely resembles what you would remember it being. True to life takes a more realistic approach and tries to capture the image as is.

Unfortunately, it's impossible to please everyone because professional photographers want true to life colour and consumers generally want memory colour. Digital camera manufacturers walk a fine line between the two and often end up offering one type of colour on their pro models and the other type on their consumer units.

If you were to blow up the size of a CCD and take a close look at it, the pattern the diodes are arranged in would resemble a piece of graph paper with horizontal and vertical lines. The spaces between the lines would be the diodes and the lines would be the empty spaces between the diodes. This type of layout has been generally effective, but Jacobs says the human eye can often pick out the lines.

The human eye has more difficulty picking out diagonal lines, though. With this in mind, Fujifilm created Super CCD technology. The first version of the technology was a traditional CCD rotated 45 degrees, but the newest version of the technology has changed the shape of the diodes from square to octagonal. Jacobs says the octagonal diodes have made them more sensitive to light and colour and give a better signal-to-noise ratio, partly because the diodes are now a bit larger.

While CCD is at the top of the heap right now, there are a couple of other technologies worth mentioning. CMOS (complementary metal-oxide semiconductor) is cheaper than CCD, but Jacobs says the quality is lower than in CCD (hence, few manufacturers use it in their digital cameras).

A new technology from Santa Clara, Calif.-based Foveon Inc. was announced in February. The Foveon X3 image sensor is supposed to yield a much higher quality of image than both CCD and CMOS. According to the company's Web site (www.foveon.com), X3 can capture three times the colour resolution of comparable image sensors. Foveon claims to be discussing the use of its technology for digital cameras with many manufacturers. The reason the colour resolution is supposed to be much greater is that the X3 technology is capable of capturing red, green and blue colours on every pixel. ◆

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Canon PowerShot S30

By CHRIS TALBOT

Even though the Canon PowerShot S30 digital camera doesn't look like much (it's a rectangular metal box), there is actually a lot of power inside of it. The mode dial on this 3.2-megapixel camera looks confusing with its 13 different settings, but what it does is give users a lot of control over exactly how they shoot with the camera.

Overall, what the S30 offers is a quality mid-range camera that is powered by a camcorder-style battery pack and CompactFlash memory cards.

Aside from being able to take colour pictures, the S30 also has an artistic mode that lets you take shots in black-and-white, sepia, neutral colour and vivid colour. The sepia tone is a great novelty because it gives viewers the impression of an old, yellowed, black-and-white photograph.

Perhaps the best thing about this camera is the control users have over the f/stop and shutter speed. You not only have full control (f/stops from 2.8 to 5.6 and shutter speeds from 15 seconds to 1/1,500 of a second), it's also very easy to change the f/stop and shutter speed. On some digital cameras, the ability to do that is buried deep in the camera's menus. On the S30, it's a top-level menu. With the S30, you can go full-auto and let the camera choose the best f/stop and shutter speed, as well.

The PowerShot S30 has 3X optical zoom and 3.2X digital zoom. Still shots can be captured in JPEG or RAW format and videos in AVI format. The camera comes with *ArcSoft PhotoImpression* and *VideoImpression* software, a 16 MB CompactFlash memory card, one battery pack, and a charger for the battery. ◆

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Submit your photographs, along with the information from the form below, by July 12, 2002. You can submit up to three photographs, all of which must be accompanied by a submission form. Entries must be submitted via e-mail. Files should be no bigger than 500 KB. One photo per e-mail.

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Toronto Computes!'s 1st Shooting spree contest form. All submissions must contain this information

Deadline: July 12, 2002
Name: .....
Address: .....
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Age: .....
Occupation/School: .....
Title of Entry: .....
Camera Used: .....
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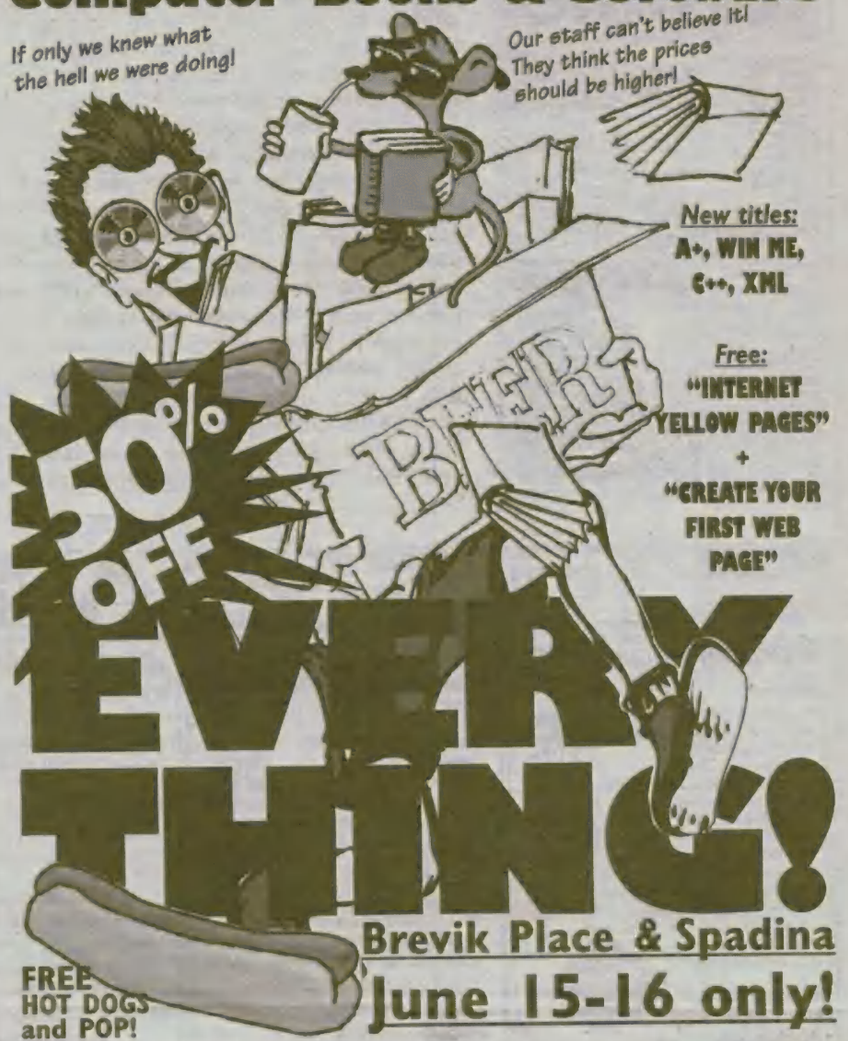

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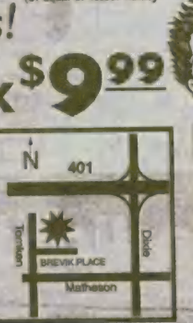

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Images don't have to cost a fortune

By CHRIS TALBOT

The bane of the home publisher is obtaining images to print (we're talking about printing images legally here). Unless you're an artist who has time to draw, ink and colour (if you're printing in colour) graphics so they look professional, what you're going to need is royalty-free images.

Type in "royalty-free image" into any search engine and you'll have more hits than you could ever use. Unfortunately, most of these royalty-free image collections on the Web are expensive. You also can't tell what the quality of the images is going to be. You could buy a royalty-free image collection that comes on a bunch of CD-ROMs, but most collections are priced in the hundreds or thousands of dollars.

So what's a home publisher to do?

Hemera Technologies is looking out for the small guy. Last year, the company released *The Big Box of Art* (see review in *TC!* January 2002), which contained 350,000 images. Included in the package was 180,000 vector clip art images, 5,000 Hemera images from their *Photo-Objects* collection, 30,000 raster illustrations, 30,000 professional photographs, 103,500 Web graphics and animations, 2,000 textured photos and 500 *PhotoFont* textures. Priced at $39.95, *The Big Box of Art* is a great deal. It's great for someone just starting out in home publishing. The number of images and the variety of categories of images available should keep you well stocked for a long time. (A Macintosh version that contains 215,000 images is also available for $99.95.)

Apparently someone at Hemera wasn't convinced *The Big Box of Art* was big enough because Hemera recently released a new version of the royalty-free image collection. The new collection contains 615,000 images. It includes 241,300 vector clip art images, 10,100 *Photo-Objects*, 50,000 raster illustrations, 50,200 professional photos, 260,700 Web graphics and animations, 2,000 textured photos and 500 *PhotoFont* textures. The price has scaled up, as well, to $69.95. The 350,000 images version is still available.

If you have a higher budget for artwork, there are also two volumes available of Hemera's popular *Photo-Objects* royalty-free images collection. Both are available for US$99.99. While *The Big Box of Art* focuses on artwork (illustrations, clip art, etc.), *Photo-Objects* is mostly made up of royalty-free photographs, most of which are top-notch in the quality department.

Hemera also offers a Web-based royalty-free images service called GraphicsDesk. If you only need some images for one project, this might be the way to go. The price for one week is US$9.95.

A helpful tip for home publishers is to start building a royalty-free image collection of your own. Aside from royalty-free image collections like those from Hemera, you will more than likely come across royalty-free images while surfing the Web and dealing with other publishers. Whether you need them now or not, if you see something that catches your eye, grab it and archive it (you'll need to be organized so you can find it later if you need it).

If you're a photographer, it's a good idea to keep an eye on your photographs for anything that would make a good photo illustration in the future. Keep any potentially usable images in your archive, as well. It's a good idea to read up on legal issues regarding using photographs of people, though. Many people don't want their picture published (or can't have them published). Knowing and abiding by laws will save you a lot of trouble later on.

Be sure to check our Web site (www.canadacomputes.com) for reviews of software and image collections suitable for the home publisher. ◆

more INFO

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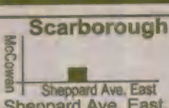

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FEATURE

The well-connected cyclist

By ALAN THWAITS

Photograph by Larry Strung

When you're planning a summer holiday weekend, the idea of cycling 1,000 kilometers in 75 hours (or less) probably wouldn't come near the top of the list of fun things to do.

However, that's exactly what I'll be doing this Canada Day weekend, along with other members of the Randonneurs Ontario cycling club (www.randonneursontario.ca/). What's more, while we're on the road, we'll be keeping in touch with other club members and later posting ride reports and photos to the club Web site.

The ride will start and end in Toronto, and go around Lake Ontario, via Kingston, Gananoque, Rochester and Hamilton. It's one of a series of brevets (rides which take place over a set route and must be completed within a certain time limit) hosted by Randonneurs Ontario in the course of a cycling season. Standard brevet distances are 200 km, 300 km, 400 km, 600 km, 1,000 km and 1,200 km. The Lake Ontario 1,000 km is one of two distances of that length in the club's schedule this year; the other is a round-trip ride from Toronto to Ottawa and back.

Even for experienced cyclists, such a ride is a daunting prospect. In order to finish within the set time limit, riders will have to maintain a steady pace, plan their stops carefully and manage their resources well. The normal procedure for a 1,000-km brevet is to ride for about 300 km on the first day, stop for a three hour sleep break, ride another 300 km on the second day, stop for another three hour sleep break, then finish with a 400 km ride on the third day.

That kind of schedule obviously doesn't leave much room for playing with technology. But safety considerations mean that many of the brevet's participants will carry cell phones, so that help can be summoned in the event of a real emergency. We'll also use our cell phones to call ahead to confirm motel reservations – after each day's ride of 15 or so hours, we'll want to be sure that a bed and a shower are there for us.

I'll also be carrying my trusty Blackberry 957, so I can send messages back to the Randonneurs Ontario mailing list. The Blackberry's small size and instant connectivity make it the only such device I'd consider taking on such a long brevet. There's not much room for extras in my bicycle's seatpost bag and I certainly don't want to clutter up my three-hour sleep window each day fussing with cables, dialing an ISP or waiting for a complex OS to load. Best of all, my Blackberry has roaming capability, so I'll be able to keep in touch from both sides of the border.

Great exploits deserve to be recorded for posterity. Accordingly, there'll be at least a couple of digital cameras carried by brevet participants, so that images from our journey can later be posted to the club's Web site. The latest examples in this field have a small form factor and megapixel capabilities, which makes them ideal tech for cyclists on the move.

In these days of space shuttles and robotic assembly lines, the bicycle might seem like an old-fashioned technology, indeed. On the Lake Ontario 1,000-km brevet, though, the marriage of the dependable two-wheeler and the best of digital technology promises a wonderful way to spend a summer holiday weekend. ◆

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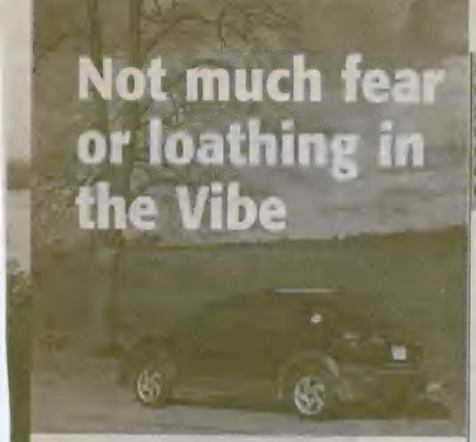

By NESTOR GULA

We were somewhere between Barrie and Orillia when we came to the conclusion that navigation systems in cars are not always useful. Managing editor Chris Talbot and I were part of a big promotional event. Different teams were to drive three Pontiac Vibes across Canada – our segment was between Toronto and Sault Ste. Marie. We were Team Abyss (driving a black Vibe).

Technologically we were loaded for bear in our respective vehicles. Each Vibe was equipped with a laptop computer, a digital camera, a BlackBerry roaming Internet device, a cell phone and even a satellite phone for emergency backup. Running out of electrical juice would not be a problem because the Vibe has a standard two-prong 110 volt AC plug on the dash. We were expected to post pictures of assigned places and status logs to the Drive the Vibe Web site (www.drivethevibe.com) along the way, thereby earning points.

The Pontiac Vibe's navigation system was really cool while we were in Toronto. All the streets were there, some points of interest were marked off on the screen and you could zoom in and out with ease. The problem started to magnify the further we got away from Toronto. Roads began to disappear from the map and exits on the 400 were marked but no roads led off them. Parry Sound and Sudbury were just place names on this system. While driving north of Georgian Bay we turned the nav system off. To be fair, we were told that this was an American system and the Canadian version was not ready. Actually an American would need the system to work in Canada if they ever ventured here. But that was not the end of our technological woes. The cell phone and BlackBerry left the coverage area so no posting was done to the Web site. Coverage was restored briefly while we were in Sudbury and Sault Ste. Marie.

Since the technology was not cooperating we were able to sit back and enjoy the drive. ◆

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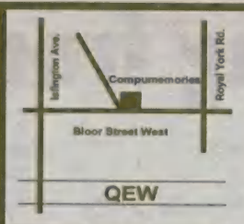

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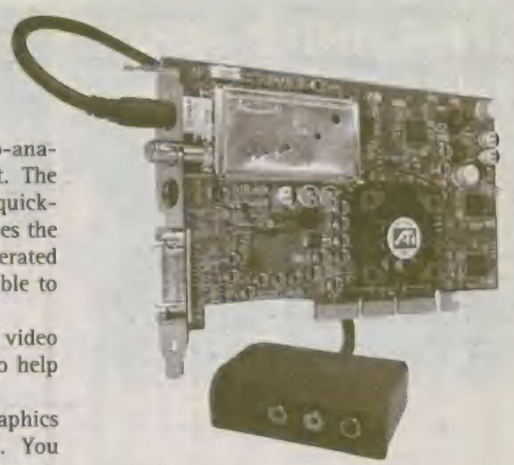

By HAROLD LASS

My first computer used an MDA (monochrome display adapter) video card. The virtual world was a black background with green text. Later, with the arrival of VGA (video graphics array) in the late '80s, my monochrome monotony exploded into 256 colours at 720x400 resolution. Without a video card (or graphics card), a computer monitor would be nothing more than an expensive doorstop. The video card controls the lighting of the pixels (picture elements). And the pixels produce the picture. A pixel is a dot on the monitor screen, and each pixel has a colour. These days, video cards can light up pixels of over sixteen million colour shades at 1600x1200 resolution and the closer these pixels are to one another (i.e. the smaller the dot pitch number), the sharper the image on the screen.

Basically, the video card converts complex digital graphics information to analogue information, which then excites all those pixels. But in order to do this seamlessly, the video card requires a lot of memory and computational power. So, rather than tie up the CPU's memory and processing power, the video card carries its own memory and microprocessor on board.

Usually, the card's processor will be either a graphics accelerator or coprocessor. If the card has a coprocessor, the graphics driver (the card software) sends all the graphics related instructions to the card's processor and then sends the rest of the instructions to the computer's CPU to carry out. If the video card has an accelerator, all instructions are sent to the computer's CPU, which then conveys the graphics instructions to the card's processor. Either way, it's the video card's processor and memory – and not your computer's CPU – that do the lion's share of displaying all those polygons that end up looking like Lara Croft.

Whatever video card you may be eyeing, an important element to focus on is the memory. The more memory, the higher the display resolution and number of colours. VRAM (video random access memory) is superior to conventional DRAM (dynamic random access memory). Other card components that affect display are the digital-to-analogue converter (DAC) and the port. The speed of the DAC determines how quickly the analogue information reaches the pixels, and if the port is an accelerated graphics port (AGP), the card is able to access memory directly.

If you are looking for a new video card, here are some suggestions to help you narrow the field.

The all-round, all-purpose graphics card really doesn't exist – yet. You should decide what you use your computer for, to determine what card best suits your needs. If you use primarily writing/business applications like word processors, desktop publishers or financial programs for which a 2-D display and limited number of colours will do, then it's a waste of money to buy a high end gaming card.

But if you're into graphics editing and games, then you're going to have to lay out some additional cash to see the light fully, quickly and clearly. Text on a screen is displayed in two dimensions – width and height. But when you enter a game's world, you're immersed in a three-dimensional environment. Depth appears to have been added. That addition of depth requires programming much more information. A gaming video card can process this additional information instantly and also handle subtle shading, many textures and anti-aliasing (smoothing of lines by the use of blended colour pixels between the line and the background). A gaming video card can display, with speed, the subtleties of a graphics-rich 3-D environment.

For a list and review of top gamer's cards check "Graphic cards for game hounds" in the May issue of *Toronto Computes!* ♦

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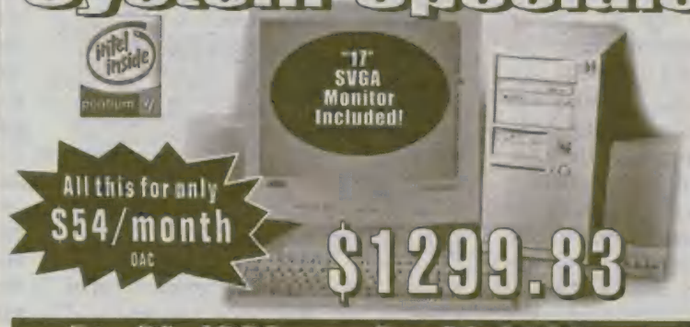

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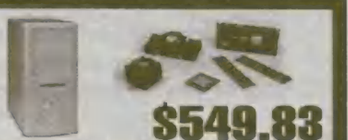

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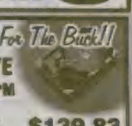

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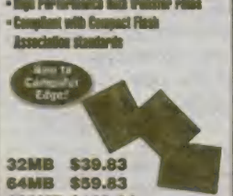

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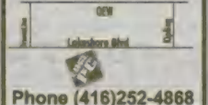

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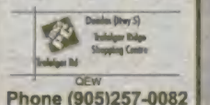

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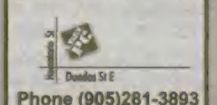

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A Musical Odyssey: Getting loopy

By NESTOR GULA

The big buzz in music for the last several years has been sampling and looping. We have all heard examples of music recorded with samples and loops. It can be the new techno sound à la Moby or the Chemical Brothers, hip-hop or rap or a myriad of popular music. Sampling and looping are not new concepts, but were developed by experimental musicians back at the turn of the century. They came into use in popular music in the '70s with avant-garde musicians like Brian Eno, Robert Fripp and Laurie Anderson. What the computer revolution has done to the concept is make it much easier to create samples and play with loops.

Sampling and looping are fairly simple concepts to understand. Sampling is what the name suggests – you copy a sound or a riff, a short musical interlude, and store it on some sort of media. These samples used to be stored on tape, but now your computer's hard disk or a synthesizer/sampler's internal memory banks are ideal places for samples. Samples can be modified and manipulated to make them sound completely different than the source. Some musicians take samples from other recorded works and use them in new compositions. This was done by nearly everybody a few years back but thankfully that trend is petering out lately. Usually you'll record a sample, a guitar riff, a bass line, a drum pattern or anything else, modify it to your liking and use it as a loop in your composition.

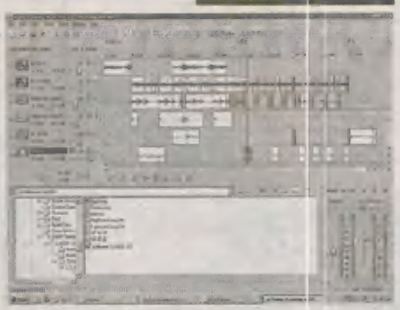
In a nutshell, looping is taking a sample of music and repeating it – in a loop. The term comes from looping a tape, in which the sample was recorded on a tape and the tape was spliced in a loop, so the sample would play endlessly, or at least until you turned the tape player back. Incidentally, this can only be done on reel-to-reel tape recorders/players. Years ago I tried doing with a cassette player. I used an answering machine message tape that was set up as a loop. The results were abysmal – very hard to control.

There are many ways to play loops. Laurie Anderson recorded a sample of writer William Burroughs' voice on a tape and strung the tape on a violin bow. She played the tape on a tape head that was mounted where the bridge on a violin would be – manipulating the speed of the voice with bowing techniques. Using software to create loop-based music gives you a great amount of control over the placement of the loops, their duration and effects. There are several excellent software packages that make it simple to create loop-based music – even if you do not have much knowledge of musical instruments or recording techniques.

Acid Pro 3.0

Sonic Foundry's *Acid Pro 3.0* is the granddaddy of loop-based music software. The original was launched in 1998. Not exactly a tool for beginners, its target audience is people who seriously want to create music and video and multimedia producers. Like all loop-based music, you do not need to know how to play an instrument to use *Acid*. If you have samples of music in different keys, putting them together in a normal music editing suite would give you cacophony at best. (Who knows, maybe that's the sound you were looking for.) *Acid* will automatically match all the keys and tempos of what you want to loop to the master tempo and key that you can set. This can also be changed at any time later in the project.

Acid is full of features that will extend your musical creativity by leaps and bounds. The Beatmapper tool allows you to add beats, combine



music loops with other audio, overlay samples and more. The Chopper tool gives you the power to create drum fills and other effects. You can use the video scoring track to match the tempo of your loops to what's on the video. It is not a full fledged video editor, but what work you do here can be seamlessly transported to Sonic Foundry's *Vegas Video*. The only thing that *Acid* does not do too well is record digital audio. Luckily the *Acid Pro 3.0* package comes with *Vegas Audio LE* and *Sound Forge XP Studio 5.0*. Either of these two packages will satisfy basic digital audio recording needs. Over 600 music loops are included in the package.

Fruityloops 3.0

You do not need to have any knowledge of music to do cool things with *Fruityloops 3.0*. In fact, some knowledge might be a detriment. *Fruityloops* was developed by Image-Line and is distributed by Cakewalk. It is a full featured and very exquisite loop creation tool. The samples that you use here are single sounds – one hit on a snare drum, high-hat or bass drum, a single short note from a guitar or keyboard, or a clap, for example. You get over 3,000 royalty-free samples with the full version of *Fruityloops*. You don't build the loops in the standard music style. The screen that greets you is an industrial looking tableau called the step sequencer. Each row is one line and represents one sampled sound. Each dot on the row represents one beat. You click the dots to turn them on and off. When on, it will trigger the selected sound at the proper point in the loop. It is easy to build loops in this manner. Where *Fruityloops* gets interesting is in the effects that are at your disposal. These aren't just the simple reverb/chorus/echo effects – you get full synthesis to manipulate sounds. You get to play with the Sine wave, adjust pitch, use the LFO (Low Frequency Oscillation) to modify the envelopes and more. This is serious music synthesizer work. There is a tool where you can

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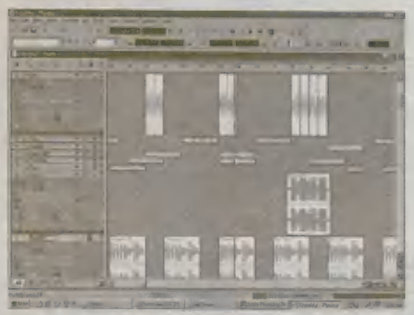
get a sample to do a melody for the loop you are building. Several virtual synths are included that let you generate your own sounds. You can put all or some of your loops together in a playlist and generate songs that can be saved as WAV or MP3 files. You can even mix your loops live and record them with *Fruityloops*. The only thing this package does not allow you to do is record digital audio.

Plasma

Released at the end of 2001, *Plasma* is the new kid on the block. This Cakewalk program has the feel of the company's other computer-based music recording software. If you have used *Home Studio 2002* (or previous versions of it) or professional-level *Sonar*, you



will be very familiar with the workings of this software. The good thing about *Plasma* is that it has full MIDI and digital audio recording capabilities. Recording your own loops and samples in *Plasma* is fairly easy. You have to open a new window called Loop Construction, and here you can apply various effects to the loop and add sonic layers. For live remixing of loops, Cakewalk added the Plasma FXPad that is a joystick-controlled multi-effects plug-in. You can mix sounds ad effects using a regular game joystick or your mouse. When using the joystick, every movement triggers a preprogrammed effect or sound. Talk about beating swords into plowshares.

Plasma has a simple video component that will let you sync up your music to a video that you import. For more sophisticated work you will have to export it to a full-fledged video editing software package. Included in *Plasma* are fairly high-end virtual synthesizers that will let you generate sounds that sound like analogue synthesizers. A version of *FruityLoops Express* is included as a teaser, as are hundreds of samples and loops. To save your work, Cakewalk has included a 30-day demo version of its Pyro MP3 encoder and CD maker.

All three of these software programs work differently but get similarly excellent results. You have to figure out which one suits your musical style and needs before purchasing. I would hazard to say that *Fruityloops* is best for someone who is just into techno and dance music. *Acid* is an elegant program that lets you manipulate loops to a very high degree. *Plasma*'s digital audio and MIDI capabilities make it a very robust all-round program.

Happily, you can get a free demo version of any of these software packages at their respective sites. That should make your decision easier and keep you from getting stuck in a loop of indecision. ◆

more INFO

Acid Pro 3.0
$335
Sonic Foundry
www.sonicfoundry.com

Requirements:
300 MHz processor, Windows 98SE/ME/2000, Windows-compatible soundcard, CD-ROM drive, 64 MB RAM, 60 MB hard disk space, DirectX 8.0

Fruityloops
$208 (converted from US$139)
Image-Line/Cakewalk
www.fruityloops.com

Requirements:
200 MHz processor, Windows 95/98/ME/2000, Windows-compatible soundcard, CD-ROM drive, 32 MB RAM, 800x600 video display

Plasma
$73 (converted from US$49)
Cakewalk
www.cakewalk.com

Requirements:
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REVIEWS

Rand McNally road maps on the Palm

By CHRIS TALBOT

The summer is almost here and it's time to start letting your mind drift to sun, sand and surf. If you're lucky, you'll be taking a week or two off and doing some traveling before the autumn leaves start to fall. For the tech savvy road tripper, Rand McNally has a multimedia expansion card for the Palm m125 and m500 series of PDAs.

Rendered in glorious colour (if you have a colour Palm, that is), *Rand McNally Road Atlas* is a good replacement for the paper maps that accompany most road trippers. Paper, you say? How 20th Century! The atlas's biggest downfall is that it shows only U.S. interstates and highways. If you're vacationing in the Great White North, you'll have to look elsewhere for map software.

However, if the U.S. is your destination, it's possible to use *Road Atlas* to look for major interstates, locate cities, plan your route (this takes the software up to five minutes to calculate) and find attractions, airports and shopping. *Road Atlas* only lists major roads, highways and interstates, so if you're hoping it will help you find your way around New York City, forget it. For that, you'll have to purchase *Rand McNally's StreetFinder* for Palm, which has maps for 35 U.S. cities.

Why, you may ask, would you want to give up your beloved paper road maps and map books for this tiny card? It's not like the *Road Atlas* card is a cheap alternative to the paper map – compare the US$39.95 price tag to a $5 road map. On the other hand, you won't have to worry about your destination getting lost in the fold.

Drive responsibly. ◆

more INFO

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www.randmcnally.com

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And the traitor is... the PC user

By GEOFF MARTIN

Fans of Fox Television's popular hit *24* (www.fox.com/24/) were shocked to learn the identity of the traitor in an episode that aired last month, but some Macintosh fans with a sharp eye knew who the villain was all along.

Shortly after the series debuted, people began to notice that the bad guys were using Dell PCs, while the hero Jack Bauer (played by Kiefer Sutherland) and most of the rest of his team of counter-terrorism agents used Macintosh computers. Midway through the television series, Mac Spotters, as they're known, were not as surprised as the rest of the viewing public to learn that one of Bauer's team was a traitor. When her misdeeds were exposed, the character committed suicide, leaving behind ... you guessed it, her Dell PC.

Viewers knew there was still another traitor scheming behind Bauer's back, but were not sure of his or her identity. The plot was leading viewers to think it was Tony Almeida, but that character used a Mac, which tipped off the Mac Spotters that he probably wasn't the bad guy. They had their fingers pointed at Nina Myers, who suddenly started using a Dell laptop that matched the bad guys' machines.

The theories were dismissed as hogwash by many fans, and even by the show's creators, but they proved to be correct last month when Myers was revealed as the traitor.

The practice of having bad guys on PCs while do-gooders use Macs is not new, however; the device has been used in other films, such as *Mission Impossible*, *Legally Blonde*, and *You've Got Mail*.

For more examples of Mac Spotting, you can head to maccentral.macworld.com/famous/

Consoles: Multiplayer gaming on the cheap

Console gaming got a whole lot cheaper and more exciting last month, beginning with a frenzy of price-dropping one-upmanship from Sony, Microsoft and Nintendo that immediately preceded E3, or the Electronic Entertainment Expo, the annual Los Angeles trade show for the video games industry.

Sony was the first company to announce that it was rather drastically chopping the price of its next-generation games console, the PlayStation 2. Once Sony dropped its price to approximately $300 from $450, Microsoft announced that it didn't want people making purchase choices based on price alone, so it dropped the price of its Xbox to match the PS2's. Nintendo was forced to follow suit, and dropped the price of its GameCube system to approximately $225, from $300.

Meanwhile, all three companies were talking up their upcoming plans for online gaming services, which will be debuted later this year. Sony has been talking about their service for several months now, but just before E3, Nintendo announced their plans for an online console gaming network, which was quickly followed by an announcement from Microsoft about its upcoming Xbox Live service.

To date, very few companies have managed to make money through online gaming, and virtually none have made money through online console gaming. Sega, in particular, gave online console gaming a valiant effort last year, but the end result was the discontinuation of their Dreamcast hardware system, and a sheepish transformation into a software-only firm that develops games for the newer consoles.

Could it be that each of the three companies currently on their way to the online ring are simply playing out an elaborate bluff, with each hoping the other two will be the first to blow their brains out?

One thing is sure: 2003 could prove to be the most interesting year in video game history, as these three titans battle it out on the Net for control of the world's living rooms.

Lucas makes judicious use of Force

Several years ago, around the time of the release of *Star Wars Episode I: The Phantom Menace*, many media outlets (including this one) reported that Hollywood was expecting the next release in the series to become the "killer app" for digital movie projectors, forever banishing film projectors to the Land of the Abandoned Drive-In.

Some even speculated that George Lucas, using his infinite industry muscle, would impose Draconian conditions on theatres and decree that no movie house could show his fifth *Star Wars* movie unless they showed it on a digital projection system.

But now that *Star Wars Episode II: Attack of the Clones* has been released, theatres equipped to show the film digitally are very rare – estimates are that just 100 movie theatres in North America are digitally equipped, which is a tiny fraction of a percentile of the total number of theatres.

The biggest barrier right now is clearly price: With many small theatre owners and larger chains crying broke, Lucas apparently decided that now was not the time to require each movie house to purchase a new US$150,000 digital projector.

Lucas might be waiting until the third and final *Star Wars* prequel to strongarm theatres into going digital, but he still apparently wanted to make a few unreasonable demands, some of which kept *Attack of the Clones* from being shown in many theatres across La Belle Province.

Quebec's more than 300 independent theatre owners rebelled against 20th Century Fox when they learned they would be required to keep the latest *Star Wars* movie on their screens for a minimum of eight weeks (the standard is four), and that they would be forced to hand over 70 per cent of the first three weeks' receipts, instead of the usual 60-40 split for just the first week, followed by a drop in favour of the theatres.

As a result, the film opened on just 86 screens in Quebec, compared to 189 screens for the opening week of *Spider-Man: The Movie*. ◆

Siege the day!

By WILLIAM A. WOOD

The adventure never stops in *Dungeon Siege*, the new fantasy-based action/role-playing game designed by Chris Taylor (of *Total Annihilation* fame). There are no load screens – the world opens up before you wherever you go. And what a gorgeous and dangerous world it is!

From the first moments, you'll marvel at the sights and sounds of this full 3-D environment. This is truly one of the most spectacularly presented games I have ever played. The sense of immersion is breathtaking, be it the foggy woodlands or the creepiest crypt.

You start as a lowly but resourceful farmer. After fighting off some monsters, you set out on a fairly typical fantasy quest to find the source of the invasion and ultimately save the kingdom. Along the way you can recruit up to seven companions, including pack mules (which carry three times as much equipment as a normal character – a brilliant idea).

The choices ordinarily given to role-playing game (RPG) players – picking a class or skills, or selecting which stats to increase – are taken away. Simply put, your characters learn by doing. If they bash a monster with a weapon, shoot arrows or cast spells, they get better at it.

The game shapes the characters and they in turn grow into the roles they are actually playing. It's quite a nifty concept. And your characters are a lot more self-sufficient than in many other RPG games. You can configure how bloodthirsty they are, but if they are attacked, they not only defend themselves, but also their comrades. They won't just stand there and die – a welcome change.

However, the flipside to this independence is that combat sometimes seems more like a spectator sport than a game. Watching your characters beat up the enemy more or less on their own (while you monitor their health and magic reserves) is cool, but players craving the micromanagement of the *Baldur's Gate*-style RPGs may get frustrated.

Of course, the action can be paused and specific orders given, but the smooth, fluid way the game handles combat will ultimately discourage the stop-and-start style. *Dungeon Siege*'s biggest strength is the flow and you'll probably be swept along.

Just remember to save early and often. *Dungeon Siege* punishes the impetuous by unleashing hordes of monsters (in a truly wide variety of nasty permutations), so travel carefully. Don't go running blindly into the centre of a large room if you want to survive.

There are some nits that can be picked. Getting around in the large dungeons can be a problem, because the "megamap" is hard to use underground (it's dark, oddly enough). This sometimes leads to random wandering in search of an exit – that's right, you can get lost! I highly recommend jotting down directions and landmarks.

The random treasure generator sometimes spits out nonsensical-seeming items, with high requirements and low value. On the other hand, the sheer volume of item choices allow for any sort of personal style (even an inefficient or showy one).

And while the essence of *Diablo 2* is quite apparent throughout the game, the role-playing complexity (the tech trees and so on) is missing, so some players may find *Dungeon Siege* too simple. On the other hand, there is a much greater sense of continuing adventure.

At the end of the day, in terms of action and fun, this one is an easy thumbs up – way up! ◆

more INFO

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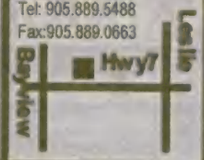

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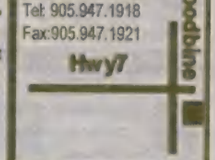

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CYBERPLAY

More than one way to skin a wireframe

By ERIK SEBELLIN and S.J. ROSS

Wouldn't it be fun if a character in your favourite video game looked like the pumped-up Spider-Man? Or the logical Mr. Spock? Or even, heaven help us, the unfortunately foolish Jar Jar Binks?

Or if the sky was a spray of sparkling orange freckles, the ocean a tangle of barbeque sauce waves coating a chicken-white beach and the buildings were a resplendent melody of lollipop colors?

Sure it would be! And, best of all, you can make these – or any surface changes you like – just by changing skins.

"A skin is a two-dimensional fixture that is wrapped around a three-dimensional object to enhance the 3-D object by giving it depth and detail," says Eric Walker, lead artist and designer, Walker Boy Studio and co-author of *Game Modeling Using Low Polygon Techniques*. Skins, which add texture, detail and light and shadow, can be added to characters and objects such as humans, animals, trees, buildings and vehicles.

For many video games, such as *The Sims*, there are already quite a few skins from either the game developer or from passionate game fans that you can download from the Internet and use. But what if the skin you want doesn't exist?

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Then you must learn how to create your own.

It's only skin deep

Creating a skin is a relatively simple, four-step process. While it is not difficult to create a skin, it does require patience and a critical eye.

"First, you have to have a 3-D model," says Walker. "This is basically a wire-frame image. What you do is paint on top of that frame. You start by blocking in the flat tones and the basic colors and texture."

After you rough out the look of your skin, you sketch in details, such as wrinkles in clothing. You also determine where your light source is and start adding highlights and shadows to your skin.

"Next, you start refining your texture," says Walker. "Ensure the texture map is on the model correctly and lined up as it is supposed to be."

Finally, make any needed revisions to complete your skin.

Judge a book by its cover

To create a skin, Walker says you can use any design software you like, such as *Photoshop* and *Paintshop Pro*. In fact, Walker says, "You can even pull out your oil paints and paint it and scan it in if you want to." You'll still need software to scan it into the computer, though.

The key challenge in creating character skins is balancing detail with resources: The greater the detail, the better the character tends to look, but the greater the drain on your computer's resources. Therefore, designers typically use one 256x256-pixel texture map per character. However, if minimizing the drain on your resources is less of a concern than the look of your character, you can use multiple textures – for a human, you would traditionally use one on the head, one on the torso, one on the arms and another on the legs – for far more detail.

To create the most realistic characters, Walker recommends using photo references.

"For a face, I'd take a digital picture of the front, side, top and back of a head and put them into *Photoshop*," says Walker. "I then put the pieces all together and create a head, which I put on the wire frame."

For landscapes, the key challenge is creating a seamless tile. Walker recommends using the stamping tool in *Photoshop* to capture and replicate an image and the blur and smudge tools to seamlessly alter and blend images.

"A good skin has colour variation,

continued on page 47

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Bring the 2002 FIFA World Cup home

By NESTOR GULA

Canada is not a part of what can be called the world's greatest tournament. Only 32 national teams qualified to compete for soccer's (I won't launch a diatribe on the soccer/football theme) ultimate prize. The World Cup, which is played every four years, will be watched by countless numbers of people. The whole world, besides large segments of North America, will follow the results of matches played in Japan and Korea religiously. Getting close to the action is all but impossible for mere mortals. The cost of the flight, hotel and game tickets would truly make it a once in a lifetime event for most – who would not be able to afford to go on another vacation ever again.

Just in time for the World Cup – it starts at the end of May and carries on till early July – Electronic Arts has released a modified version of its *FIFA Soccer* series. *2002 FIFA World Cup* (*FWC*) proudly proclaims that it is the only licensed video game of the World Cup. In *FIFA Soccer 2002* (*FS* – reviewed in *Toronto Computes!* February 2002, page 56), there was an extensive list of national teams that you take through the arduous qualifying tournaments for the World Cup. If you were skilled or lucky enough to qualify your team, bonus tournaments would be unlocked that would resemble the World Cup.

In *FWC* there are no qualifying tournaments. The 32 qualified teams are all here. For some bizarre reason, you also get a handful of teams that did not make it. If you steer a team through to victory in the World Cup, more bonus teams are unlocked. I assume this is done for marketing purposes so that the game will be easier to sell in key markets where the national side did not qualify. However, I do not think that this "what if" aspect of the game is any benefit. It is hard enough to have your team to get through the preliminary round without this added "bonus." This is especially true if you fancy one of Argentina, England, Nigeria or Sweden as your team. These four strong national sides are lumped together in the preliminary round in what is known as the group of death. Winning the group with any of these teams is quite a challenge.

The game play in *FWC* is improved. The whole "air" component of soccer is greatly enhanced. You can perform headers, volleys, scissor kicks, juggling and other advanced ways to move the ball without your hands. These moves are not too easy to perform, especially in the heat of the moment. There is much more close contact play between the players, although I found that committing fouls was a bit more difficult than in *FS*.

Every team has its exceptional players. EA has recognized this by adding a star component to *FWC*. There is now a differentiation between star players and regular players. As their name suggests, star players stand out from the crowd. They don't necessarily win the game single-handedly, but they do bring an enhanced element to your team. They will be experts at passing, shooting or sprinting. Sometimes their skills will encompass one or more of these elements. It is to your benefit to know which star player can do what. The fact that the star player's actions and shots are slightly marred by a blur effect (shades of Fox's disastrous and insulting "glowing puck" experiment with real NHL hockey) does not greatly detract from the positive aspect of this addition.

Other enhancements are: A new beginner mode, which makes a total of four levels of difficulty; all the stadiums (20 in all) are faithfully recreated; as well as new camera angles and replay functions that let you watch the goals and near misses from multiple angles and many times.

2002 FIFA World Cup is a blast. If you shelled out $55 for the *FIFA Soccer 2002* but a few months ago you can be excused for not dipping in your wallet again. But if you want a great souvenir of this year's World Cup, then this is definitely much cheaper than going to Japan or Korea to see it live. ◆

more INFO

2002 FIFA World Cup
$59.99
Electronic Arts
www.ea.com

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More than one way
continued from page 45

depth on the image, good amount of detail and good wrinkle patterns," says Walker, who has created skins for games ranging from *Age of Empires* and *Age of Kings* to *Age of Mythology*, *Battlecruiser Millennium* and *Civil War: War Between the States*. "Make sure it looks believable and realistic."

Building a better skin

To learn how to create skins, Walker recommends novice skin designers use the Internet as their teacher. "For someone who is starting off, I refer them to Web sites where they can download skins that have been made before, because it gives them an opportunity to mimic what was done and learn from it."

Walker offers three tips to the novice skin designer. First, "Know what you are going to do; it always helps if you have an idea before you sit down to start your skin." Second, "Pay attention to the detail." And third, "Practice, practice, practice."

Walker, who relishes the challenge of creating a wide variety of skins and who especially delights in watching the characters come alive, advises designers to enjoy the process. "The biggest thing is to get out there and have fun and experiment," says Walker. "And enjoy the challenge and the problems because they make for interesting solutions and opportunities to learn."

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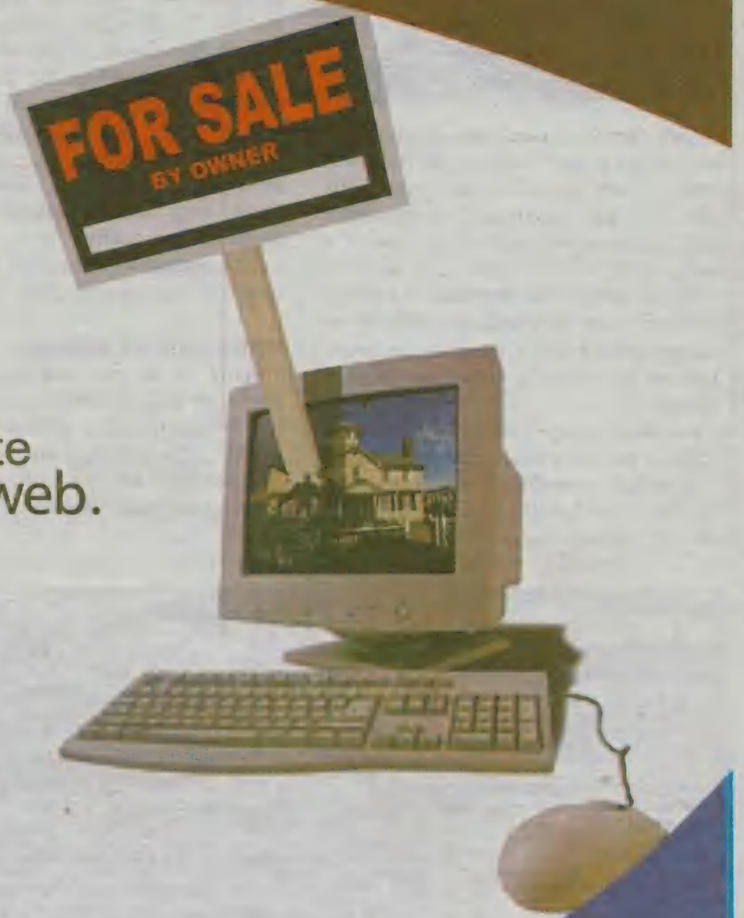

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The Net's best free games

Let's face it – computer gaming can be a costly hobby. Not only do the latest games hover around the $70 range, but then you get nailed for a faster video card, additional fees for online play or a better gamepad or flight stick, and so forth.So, what's the alternative? Launch another game of Windows *Solitaire* or *Minesweeper*? Scour the Net for hours looking for a worthy diversion? Heaven forbid.

Fret not, weary gamer, we feel your pain, so pull up a chair and grab hold of that mouse – the following are some of the Net's best totally free games. (They are not listed in any particular order.)

SimCity Classic

Who said Rome couldn't be built in a day? Maxis celebrated its twelfth anniversary of *SimCity* with the release of a free Web version of the game that started it all. The original *SimCity Classic* is available online and uses Java or HTML, so no special plug-ins are required. Gamers can also chat with friends while building and sustaining their creations. Never played the game before? Shame on you. But there are handy help sections such as "Four Easy Steps to Start a City".

(www.simcity.com, then click on "Classic Live!" to register and play)

Hollywood Stock Exchange

Many of us love playing the stock exchange (OK, so maybe not lately) but if you want the same thrill of playing the market without losing your shirt there's a free and no-risk solution – the Hollywood Stock Exchange. Wall Street meets Hollywood in this enjoyable online investment sim where players must buy and sell favourite movies, celebrities and musical artists while earning cool prizes and merchandise. Should you invest in the movie *The Hulk* or sell your shares of Britney Spears?

(www.hsx.com)

Steel Panthers: World at War

Don't be turned off by this 360 MB download – if you have high-speed access such as a cable modem, DSL line or T1/T3 connection – then be sure to snag this epic World War II turn-based squad-level strategy game. Players can choose to lead a single platoon or up to an entire battalion through Europe and the Pacific (1930-1949) on their way to "V" for victory. Locations range from the frozen Finland countryside, to the hills of Italy, to German towns, to the beaches at Normandy. Players can also construct their own maps or log online and play against other wargamers.

(www.matrixgames.com)

Dink Smallwood

Dink Smallwood is a *Zelda*-esque fantasy adventure/RPG about a teenage farmer who goes from feeding pigs to saving the world as he learns to master both might and magic. OK, so the story isn't anything to write home about, but the dozens of locations, characters and side-quests makes this a must-have for those gamers on a mega-tight budget. The game's graphics are inspiring for a freeware game, resembling the isometric view of *Diablo*, but with many more outdoor levels including towns, an ice castle and even the pits of hell itself. Expect between 15 and 20 hours of play here, but most impressive is the fact *Dink Smallwood* players can also download 200 or so free Mods (modifications) for seemingly endless gameplay or create their own worlds using the free level editor.

(www.rtsoft.com)

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- ☑ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ☑ 40Gb Fast Ultra-100 Hard Disk Drive @ 5400RPM
- ☑ 256Mb SDRAM, PC/133MHz, 168Pin RAM Memory
- ☑ Mid-Tower 6 Bay ATX Case w/ 250W Power Supply
- ☑ On-Board EIDE Controller & Ultra/100 Support
- ☑ 2- USB Ports, 1- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ☑ On-Board AGP 3D Video w/ 64Mb Buffer
- ☑ On-Board PCI Stereo Sound w/ Surround Sound
- ☑ 56k Fax/Modem w/ Voicemail, v.90, AMR
- ☑ On-Board PCI Full Duplex Network Adapter
- ☑ Fifty-Two Speed (52X) Max EIDE CD-ROM Drive
- ☑ KDS 17" Digital .27dp SVGA Colour Monitor
- ☑ Mitsumi 104 Enhanced Soft-Touch Win 95 Keyboard
- ☑ Labtec Spin 50 Amplified Powered Stereo Speakers
- ☑ Microsoft Compatible Serial Mouse and Mouse Pad
- ☑ MS Windows XP Home OEM w/ CD and Manual
- ☑ **5 Years Labour & 1 Year Parts Warranty**

AMD Duron 950MHz	$849.99 or $31/mth
AMD Duron 1.0-GHz	$859.99 or $32/mth
AMD Duron 1.1-GHz	$869.99 or $32/mth
AMD Duron 1.2-GHz	$879.99 or $32/mth
AMD Duron 1.3-GHz	$904.99 or $34/mth
AMD Athlon XP-1700+	$949.99 or $35/mth
AMD Athlon XP-1800+	$959.99 or $35/mth
AMD Athlon XP-1900+	$999.99 or $37/mth
AMD Athlon XP-2000+	$1059.99 or $39/mth
AMD Athlon XP-2100+	$1159.99 or $43/mth
Intel Pentium 4-1.6GHz	$1009.99 or $37/mth
Intel Pentium 4-1.7GHz	$1044.99 or $38/mth
Intel Pentium 4-1.8GHz	$1089.99 or $40/mth
Intel Pentium 4-1.9GHz	$1134.99 or $42/mth
Intel Pentium 4-2.0GHz 512k	$1189.99 or $44/mth
Intel Pentium 4-2.2GHz 512k	$1369.99 or $50/mth
Intel Pentium 4-2.4GHz 512k	$1644.99 or $55/mth

PREMIER CHOICE SILVER

- ☑ Abit KX7-333 Motherboard for AMD Socket A or Abit BD7-II Motherboard for Intel Pentium 4 CPUs
- ☑ Thermaltake Volcano 6CU+ Heat Sink/Fan for AMD CPU
- ☑ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ☑ 40Gb Fast Ultra-100 Hard Disk Drive @ 7200RPM
- ☑ 256Mb DDR RAM, PC2100, 184Pin RAM Memory
- ☑ Premium 6 Bay Mid-Tower ATX Case w/ 300W P.S.
- ☑ On-Board EIDE Controller & Ultra/100 Support
- ☑ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ☑ ATI Radeon 7000 AGP Video w/ 64Mb & TV-Out
- ☑ 16X DVD-ROM Drive w/ 40X CDROM support
- ☑ SoundBlaster PCI 128 Plug & Play Stereo Sound Card
- ☑ Cambridge Inspire 2.1 Speaker System w/ Subwoofer
- ☑ Rockwell 56K Int. Voice/Fax/Modem v.90 (PCI)
- ☑ Smartlink 10/100Mbit Full-Duplex PCI Network Card
- ☑ KDS 17" Digital .25dp Colour CRT Monitor, Xtreme Flat
- ☑ Mitsumi 104 Enhanced Soft-Touch Win 95 Keyboard
- ☑ Logitech Optical Mouse w/ Wheel & Mouse Pad
- ☑ MS Windows XP Home OEM w/ CD and Manual
- ☑ **5 Years Labour & 1 Year Parts Warranty**

AMD Duron 950MHz	$1239.99 or $46/mth
AMD Duron 1.0-GHz	$1249.99 or $46/mth
AMD Duron 1.1-GHz	$1259.99 or $46/mth
AMD Duron 1.2-GHz	$1269.99 or $47/mth
AMD Duron 1.3-GHz	$1294.99 or $48/mth
AMD Athlon XP-1700+	$1339.99 or $49/mth
AMD Athlon XP-1800+	$1349.99 or $50/mth
AMD Athlon XP-1900+	$1389.99 or $51/mth
AMD Athlon XP-2000+	$1449.99 or $53/mth
AMD Athlon XP-2100+	$1594.99 or $52/mth
Intel Pentium 4-1.6GHz	$1404.99 or $52/mth
Intel Pentium 4-1.7GHz	$1439.99 or $53/mth
Intel Pentium 4-1.8GHz	$1484.99 or $54/mth
Intel Pentium 4-1.9GHz	$1529.99 or $51/mth
Intel Pentium 4-2.0GHz 512k	$1584.99 or $53/mth
Intel Pentium 4-2.2GHz 512k	$1764.99 or $59/mth
Intel Pentium 4-2.4GHz 512k	$2039.99 or $68/mth

PREMIER CHOICE GOLD

- ☑ Asus P4S533 Motherboard for Intel Pentium 4 CPUs or Asus A7V333 Motherboard for AMD CPUs
- ☑ Thermaltake Volcano 7 Heat Sink /Fan for AMD CPUs
- ☑ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ☑ 60Gb Fast Ultra-100 Hard Disk Drive @ 7200RPM
- ☑ 256Mb DDR RAM, PC2700, 184 Pin RAM Memory
- ☑ Enlight Mid-Tower ATX Case w/ 7 Bays &-300W P.S.
- ☑ On-Board EIDE Controller & Ultra/100 Support
- ☑ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ☑ Asus v8170/DDR GeForce4 MX-440 w/ 64Mb & TV-Out
- ☑ Panasonic 24x10x40 CD-RW w/ Burn Software
- ☑ SoundBlaster Live 5.1 PCI Stereo Soundcard
- ☑ Altec Lansing AVS500 w/ 4 Speakers & Subwoofer
- ☑ US Robotics 56K Internal Fax/Modem v.90 (PCI)
- ☑ D-Link 10/100Mbit Full-Duplex Network Adapter (PCI)
- ☑ KDS 19" Monitor .25dp 1600x1280 NI, Xtreme Flat
- ☑ Keytronic 104 Enhanced Soft-Touch Win 95 Keyboard
- ☑ Microsoft Wheel Mouse Optical Mouse w/ Mouse Pad
- ☑ MS Windows XP Home OEM w/ CD and Manual
- ☑ **5 Years Labour & 1 Year Parts Warranty**

AMD Duron 950MHz	$1674.99 or $56/mth
AMD Duron 1.0-GHz	$1684.99 or $56/mth
AMD Duron 1.1-GHz	$1694.99 or $57/mth
AMD Duron 1.2-GHz	$1704.99 or $57/mth
AMD Duron 1.3-GHz	$1729.99 or $58/mth
AMD Athlon XP-1700+	$1774.99 or $59/mth
AMD Athlon XP-1800+	$1784.99 or $60/mth
AMD Athlon XP-1900+	$1824.99 or $61/mth
AMD Athlon XP-2000+	$1884.99 or $63/mth
AMD Athlon XP-2100+	$1984.99 or $66/mth
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Intel Pentium 4-1.8GHz	$1864.99 or $62/mth
Intel Pentium 4-1.9GHz	$1909.99 or $64/mth
Intel Pentium 4-2.0GHz 512k	$1964.99 or $66/mth
Intel Pentium 4-2.2GHz 512k	$2144.99 or $71/mth
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- ☑ Abit IT7 Motherboard w/ i845E Chipset for P4 or Abit AT7 Motherboard for AMD CPUs
- ☑ Thermaltake Volcano 7+ Heat Sink /Fan
- ☑ Panasonic 3.5" - 1.44MB HD Floppy Disk Drive
- ☑ 120Gb Ultra/100 Hard Disk Drive @ 7200RPM w/ 8Mb
- ☑ 512Mb DDR SDRAM PC2700 Memory
- ☑ Enlight Mid-Tower ATX Case w/ 7 Bays
- ☑ Pentium 4 - 300W ATX Power Supply w/ 2 Fans
- ☑ On-Board EIDE Controller & Ultra/100 Support
- ☑ 4- USB Ports, 2- 16550 Serial Ports, 1 PS/2 Mouse Port & 1- Bi-Directional Parallel Port
- ☑ ATI All-In-Wonder Radeon 8500 DV w/ 64Mb DDR
- ☑ Plextor 40x / 12x / 40x CR-RW Drive w/ Software
- ☑ SoundBlaster Audigy Value PCI Stereo Soundcard
- ☑ Creative Inspire 5.1 5300 w/ 5 Speakers & Subwoofer
- ☑ US Robotics 56K Internal Fax/Modem v.90 (Hardware)
- ☑ 3COM 10/100Mbit Full-Duplex Network Adapter (PCI)
- ☑ KDS Radius Rad5 15" LCD Monitor, .297mm
- ☑ Microsoft Internet Keyboard w/ Internet Shortcuts
- ☑ Microsoft Intellimouse w/ Mouse Pad
- ☑ Thermaltake 80mm Second Case fan
- ☑ Arctic Silver III Thermal Heat Compound
- ☑ MS Windows XP Professional OEM w/ CD and Manual
- ☑ **5 Years Labour & 1 Year Parts Warranty**

AMD Duron 1-Ghz	$2799.99 or $93/mth
AMD Duron 1.2-Ghz	$2819.99 or $94/mth
AMD Athlon XP-1700+	$2889.99 or $96/mth
AMD Athlon XP-1800+	$2899.99 or $96/mth
AMD Athlon XP-1900+	$2939.99 or $98/mth
AMD Athlon XP-2000+	$2999.99 or $100/mth
AMD Athlon XP-2100+	$3099.99 or $101/mth
Intel Pentium 4-1.6GHz	$2914.99 or $97/mth
Intel Pentium 4-1.7GHz	$2949.99 or $98/mth
Intel Pentium 4-1.8GHz	$2994.99 or $100/mth
Intel Pentium 4-1.9GHz	$3039.99 or $100/mth
Intel Pentium 4-2.0GHz 512k	$3094.99 or $101/mth
Intel Pentium 4-2.2GHz 512k	$3274.99 or $107/mth
Intel Pentium 4-2.4GHz 512k	$3549.99 or $116/mth

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AMD Duron 950Mhz @ 100/200Mhz (Socket A)	see web
AMD Duron 1-Ghz @ 100/200Mhz (Socket A)	see web
AMD Duron 1.2-Ghz @ 100/200Mhz (Socket A)	see web
AMD Duron 1.3-Ghz @ 100/200Mhz (Socket A)	S see web
AMD Athlon 1.3-Ghz @ 133/266Mhz (Socket A)	see web
AMD Athlon 1.4-Ghz @ 133/266Mhz (Socket A)	see web
AMD Athlon XP 1700+ @ 1.47Ghz (Socket A)	see web
AMD Athlon XP 1800+ @ 1.53Ghz (Socket A)	see web
AMD Athlon XP 1900+ @ 1.60Ghz (Socket A)	see web
AMD Athlon XP 2000+ @ 1.67Ghz (Socket A)	see web
AMD Athlon XP 2100+ @ 1.73Ghz (Socket A)	S see web
Intel Celeron 1-GHz (FC-PGA2) @ 100Mhz	see web
Intel Celeron 1.1-GHz (FC-PGA2) @ 100Mhz	S see web
Intel Celeron 1.2-GHz (FC-PGA2) @ 100Mhz	see web
Intel Celeron 1.3-GHz (FC-PGA2) @ 100Mhz	S see web
Intel Pentium III 1-GHz (FC-PGA2) @ 133Mhz	see web
Intel Pentium 4-1.6-GHz (Socket 478)	see web
Intel Pentium 4-1.7-GHz (Socket 478)	see web
Intel Pentium 4-1.8-GHz (Socket 478)	see web
Intel Pentium 4-1.9-GHz (Socket 478)	S see web
Intel Pentium 4-2.0-GHz (Socket 478) 512k	see web
Intel Pentium 4-2.2-GHz (Socket 478) 512k	S see web
Intel Pentium 4-2.4-GHz (Socket 478) 512k	S see web

Full List of CPUs Available Online

128 MB, SDRAM PC/133Mhz	see web
256 MB, SDRAM PC/133Mhz	see web
512 MB, SDRAM PC/133Mhz	see web
256 MB, DDRAM SDRAM PC2100 (266Mhz)	see web
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256 MB, DDRAM SDRAM PC2100 Registered	S see web
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128 MB, Rambus PC800 Non-ECC	S see web
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Thermaltake Volcano 6 CU / Volcano 6 CU+	$24.99/$29.99
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Thermaltake Volcano 7+ w/ Adjustable fan (6000RPM)	$59.99
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Thermaltake Crystal Orb (Cooler for Video Cards)	$24.99
Thermaltake Storm Orb / Memory Cooling Kit	$14.99/$19.99
Thermaltake 60mm Case Fan / 80mm Case Fan	$14.99/$14.99
Just Cooler 60mm Case Fan / 80mm Case Fan	$9.99/$9.99
Cidicom FC-PGA Heat Sink / AMD Heat Sink	$9.99/$9.99
Arctic Silver III Thermal Paste	$9.99
Just Cooler HD-100 Hard Drive Cooler	$14.99
Removable Hard Drive Rack w/ Fan	$24.99

Full List of Cooling Supplies Available Online

Premier Motherboards

Motherboards for AMD CPUs

Abit AT7, Socket A, VIA KT333 (ATX) Non-Legacy	N $249.99
Abit KX7-333, Socket A, VIA KT333 (ATX)	N $174.99
Abit KX7-333R, Socket A, VIA KT333 (ATX) RAID	N $189.99
Asus A7N266, Socket A, nForce (ATX)	$204.99
Asus A7S333, Socket A, SiS745 (ATX)	N $114.99
Asus A7V333, Socket A, KT333 (ATX) RAID	N $194.99
PC Chips M810, Socket A (MATX) w/ Video, Sound & Lan	$109.99
PC Chips M830, Socket A (ATX) w/ Sound & Lan	$99.99

Motherboards for Intel CPUs

Abit VH6T, FC-PGA2, VIA 133A (ATX) UDMA/100	$129.99
Abit BL7, Socket 478, Intel i845 Chipset (ATX)	$144.99
Abit BD7-II, Socket 478, Intel i845E (ATX)	N $199.99
Abit BD7-II-RAID, Socket 478, Intel i845E (ATX) RAID	N $219.99
Abit IT7, Socket 478, Intel 845E (ATX) Non-Legacy	N $259.99
Abit TH7II-RAID, Socket 478, Intel i850 Chipset (ATX)	$214.99
Asus P4B, Socket 478, Intel i845 Chipset (ATX)	$164.99
Asus P4B533, Socket 478, Intel i845E Chipset (ATX)	N $229.99
Asus P4S533, Socket 478, SiS 645 Chipset (ATX)	N $169.99
Asus P4T-E, Socket 478, Intel i850 Chipset (ATX)	$209.99
PC Chips M758, PGA-370 (MATX) w/ Video, Sound & Lan	$99.99
PC Chips M925, Socket 478 (MATX) w/ Video, Sound & Lan	$114.99
Tyan S1854, FC-PGA & Slot 1, Via 133 Chipset (ATX)	$149.99
Tyan S2266, Socket 478, Via P4X266 Chipset (ATX)	$114.99

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120GB UDMA/133 5400RPM EIDE Hard Drive	S $249.99
160GB UDMA/133 5400RPM EIDE Hard Drive	S $379.99
20GB UDMA/100 7200RPM EIDE Hard Drive	$114.99
40GB UDMA/100 7200RPM EIDE Hard Drive	$124.99
60GB UDMA/100 7200RPM EIDE Hard Drive	$154.99
80GB UDMA/100 7200RPM EIDE Hard Drive	$184.99
100GB UDMA/100 7200RPM EIDE Hard Drive	$274.99
120GB UDMA/100 7200RPM EIDE Hard Drive	S $299.99
WD 120GB UDMA/100 7200RPM Hard Drive w/ 8Mb	$344.99

Full List of Hard Drive Brands Available Online

Panasonic 1.44Mb Floppy Disk Drive	$19.99
Iomega 250Mb Zip Drive - EIDE / USB	B $109.99/$224.99
Promise Ultra/133 TX2 Controller Card	B $79.99

Premier Fax Modems

Rockwell 56K Int. w/ Voice (v.90) PCI	$24.99
US Robotics 56k Int. PCI WinModem / Hardware	$34.99/$89.99

Premier Video Cards

Asus v7100Pro GeForce2 MX-400 w/ 32Mb AGP	B $99.99
Asus v7700TiVx GeForce2 TiVx w/ 32Mb DDR AGP	B $124.99
Asus v8170/DDR GeForce 4 MX-440 64Mb DDR TV-Out	B $164.99
Asus v8440 GeForce 4 Ti 4400 w/ 128Mb DDR	B $424.99
Asus v8460 Ultra GeForce 4 Ti 4600 w/ 128Mb DDR	B $549.99
ATI Xpert 98 w/ 8Mb SDRAM AGP/PCI	$39.99/$59.99
ATI Radeon 7000 w/ 32Mb SDRAM AGP w/ Video Out	$64.99
ATI Radeon 7000 w/ 64Mb SDRAM AGP w/ Video Out	$84.99
ATI Radeon 7500 w/ 64Mb DDR AGP w/ Video Out	$129.99
ATI Radeon 8500LE w/ 64Mb DDR AGP w/ Video Out	$194.99
ATI All-In-Wonder Radeon 7500 w/ 64Mb AGP DDR	$229.99
ATI All-In-Wonder Radeon 8500DV w/ 64Mb AGP DDR	$349.99
Leadtek WinFast GeForce4 MX-440 A170 w/ 64Mb	B $184.99
Leadtek WinFast Geforce4 A250 TD w/ 128Mb	B $414.99
Leadtek WinFast Geforce4 A250 Ultra TD w/ 128Mb	B $539.99

Full List of Video Cards Available Online

ATI TV Wonder - PCI (Not VE Version)	$89.99
ATI TV Wonder USB -TV Tuner & Video Capture	B $124.99
Sigma Designs Hollywood+ DVD Playback Card	$79.99

Premier Soundcards & Speakers

SoundBlaster PCI 128	$29.99
SoundBlaster LIVE Value 5.1	$49.99
SoundBlaster Audigy Value	$99.99
SoundBlaster LIVE Audigy Platinum	B $274.99
SoundBlaster LIVE Audigy Platinum ex	B $344.99
SoundBlaster Extigy	B $214.99
Altec Lansing AVS-200 w/ 2 Speakers	N $29.99
Altec Lansing AVS-300 w/ 2 Speakers & Subwoofer	$49.99
Altec Lansing AVS-500 w/ 4 Speakers & Subwoofer	$64.99
Creative Inspire 2.1 2400 w/ 2 Speakers & Subwoofer	$64.99
Creative Inspire 4.1 4400 w/ 4 Speakers & Subwoofer	$94.99
Creative Inspire 5.1 5300 w/ 5 Speakers & Subwoofer	$134.99
Creative Inspire 5.1 Digital 5700 w/ 5 Speakers & Subwoofer	$394.99

Premier CD/DVD-ROM & RW Drives

Creative / Sony 52X CD-Drive (7.8MB/Sec)	$49.99
Pioneer / Sony / Toshiba 16X DVD-ROM Drives	$79.99

Full List of Drives Available Online

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The changing world of shareware

Lately, I've noticed a disturbing trend in the personal computer program industry. Much of the so-called shareware is not truly shareware but actually demoware. Maybe I'm debating semantics, but when I'm downloading programs and investigating their functionality, I'd appreciate being told upfront the limitations of what I'm using.

Real shareware

Simply put, shareware is a way to "try before you buy." Shareware programs should not have any functionality restrictions. Many people also claim that it should not be time limited but often these programs stop working after (say) 30 days or whenever the licence expires.

The "share" part of shareware is that you are encouraged to pass the program along to your family and friends for them to try and see if they like it. Of course, if you find the program useful and want to keep using it, you are ethically required to send the author payment for the program.

Demoware

Demoware is simply a demonstration version of the software in question, and usually the program is lacking in functionality. It's this lack of functionality that makes it a demo only. For example, often you cannot print or save your work with demoware. One similarity with shareware is that you are encouraged to pass the software on to others. You may be familiar with demoware if you play a lot of games. Often, you are able to download the first level and then if you like it, you can buy it from the company. The popular game *Doom*, from id Games, was one such example, where the first episode was freely available to get you hooked on the game but the subsequent levels were commercial.

Why the trend from true shareware to demoware? Simply put, people do not register their software. How many of you have a copy of *WinZip* on your computer? Now how many of you have actually sent the author the necessary US$29? Are you ever planning on sending the money or will you continue to use the program forever without paying for it?

Why don't people register shareware?

In some cases, it is not as easy as it could be. Many shareware authors insist on obtaining an American dollar cheque or money order which means a special trip to the bank. One positive trend that alleviates this issue is the availability of Internet commerce sites that will allow you to pay by major credit card. For example, Handago and PalmGear are two of the larger distributors of Palm applications and both accept Visa and MasterCard. This is how I register all of my Palm PDA applications.

Another reason people give for not registering is that the program in question does not justify the cost. I've seen many shareware programs that cost over US$30 (almost $50 Canadian), that should cost about $10. How can these authors demand so much for their program? If I'm going to pay $50 for a boxed commercial game, there is no ☛

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way I'm paying $50 for some shareware utility for my Palm PDA.

Cost per hour

You really should register the shareware you use. Consider this: If a two-hour movie costs $12, then I'm paying $6 per hour for my entertainment. I registered the shareware game *World War* (a *Risk* clone) for my Palm PDA for US$15 (about $25) and I'm sure I've played it for over 50 hours in total (probably more). That works out to roughly 50 cents per hour of entertainment cost. A similar analogy can be used for commercial software. I bought *Quake II* for Linux a while ago for $25 and I've spent one heck of a long time playing it, along with its expansion packs. My entertainment cost per hour is probably getting close to zero by now.

Freeware alternatives

If you are not willing to register your shareware, the legal and ethical thing to do is to remove these programs from your computer. You should consider utilizing a similar freeware application such as using *WiZ* (www.info-zip.org) instead of *WinZip* that will provide you with the same functionality and you won't need to feel guilty about.

Personal e-mail to Kevin Linfield, P.Eng., can be sent to linfield@rocketmail.com. ♦

The Net's best free games

continued from page 48

AboutGolf.com World Tours

Thanks to Friendly Software – the savvy team responsible for past *Microsoft Golf* titles – players can download and play two completely free, eighteen-hole computer golf games: One is the "Wildwood National" course, a fantasy layout set in the heart of the Blue Ridge Mountains in Tennessee; the other is a "best of" Myrtle Beach-area collection featuring Tidewater, Blackmoor, Wild Wing Plantation and Myrtlewood. Players can indulge in these addictive diversions alone, but the real thrill is to join one of the many online tournaments against up to four other desktop golfers to compete for prizes such as golf vacations, apparel and equipment. (www.aboutgolf.com/tours)

Other good freebies are *Dope Wars* (www.beermatsoftware.com), *Sanctum* (www.digitaladdiction.com) and *Zork I, II* and *III* (www.activision.com), *Betrayal at Krondor* (www.sierrastudios.com/games/krondor) and *Real Pool 3D* (www.shockwave.com/sw/content/realpool). ♦

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Grandma's not old – she's just analogue

By MARA GULENS

We don't talk about it, but we all know grandma is analogue. It's in her watch, modern enough to wind itself every time she swings her arm, but so difficult to read accurately. She refuses to use bank machines and anything from computers to telephone messaging systems leave her flustered.

A generation younger, I'm significantly more hip than the guy in the TV commercial who admits "it used to take days to deliver, now it takes minutes." But "remember" is still big with me. Remember when the bank linked up branches so withdrawals were possible coast to coast? Remember making the switch from Liquid Paper to "delete"?

My daughters are, to use a phrase coined by Toronto-based business and technology writer Don Tapscott, "growing up digital." Remember is not a part of their lexicon, because to them there is no life before digital. Try to explain why the phone with the long cord doesn't function in the car and their eyes glaze over. Advise them to take a break after snapping 200 images with the digital camera and they ask why.

According to Tapscott, the Net generation, or N-Gen, is that group of children who this year are between the ages of four and 24. Today's gap between parents and kids has as much to do with the collision of ideologies as with the plain and simple fact that the world has changed. Dad says analogue, son says digital and the two have a hard time finding common ground.

A recent discussion with three preschoolers illustrated this evolution. We were talking about pianos and I said, "Isn't it amazing what our digital piano is capable of!" The kids were more concerned with why grandma's upright was so stupid.

Growing up

According to Tapscott, the switch from television to interactive media has brought about fundamental changes in the way kids process information and communicate.

Adults:

- Grew up in a broadcast, analogue world;
- Experienced life as "viewers": Everything was one-way and they were active recipients;
- Have to "accommodate" new technologies.

Kids:

- Grow up in a digital, interactive world;
- Experience life as "users" – engagement is active;
- Assimilate technology.

At school, kids know more about the new way of learning than their teachers and expect more interaction, discussion and customization. Kids are already driving the use of technology in the family, with Statistics Canada reporting 55 per cent of parents with home computers bought them specifically for their children.

As digital kids grow up, enter the work force and start their own families, they'll force corporations and governments to change as well, explains Tapscott.

Keep up with the kids

To keep up with digital kids, corporations need to better understand how they tick. For example, producers may have kids all figured out in terms of television, but do they understand kids when it comes to interactive media?

"Most Web site designs for kids are based on pure folklore about how kids supposedly behave – or, at best, by insights gleaned when designers observe their own children," reports Nielsen Norman Group's (NNG) co-founder, Jakob Nielsen. Among the gleanings of a recent NNG report, *Usability of Websites for Children: 70 Design Guidelines*, was the fact kids tend to confuse online advertising with content. As a Web site developer, wouldn't that make you pause? As a parent, it makes me shudder.

More research like the above can only help bridge the gap between digital and analogue types, not to mention keep everyone aware of the differences. Grandma sticks to the wind-up watch she grew up with because she understands it. Kids will stick with what they grow up with, because they understand it – in their own, digital way.

What are your digital kids like? Let me know at: maragulens@yahoo.com. ✦

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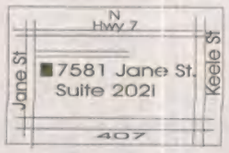

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You may want to remain a viewer

By MARA GULENS

You have to love those Kratt brothers – the way they run with the cheetahs and jump with the kangaroos! The newest interactive extension to their PBS television series, *Zoboomafoo*, gives kids the best of the tube and then some, but maybe not enough to keep them keep coming back for more.

Creature Quest's opening sequence pulls users right in with full-screen video that seemingly promises more than what's available on TV. Unfortunately, it seems more effort goes into the viewer (TV) than the user (PC) version, and kids may tire of this game rather quickly.

As the brothers point out, the quest in this case is to play games, collect puzzle pieces and make a map that reveals where they've hidden the treasure. There are a total of eight games, with three levels each, intended to help kids get a better understanding of animals and their environments. Although games can be played over and over, puzzle pieces are awarded for the first round only.

The games include identifying patterns, colouring pages showing various ecological regions of the world, helping Zoboo and Narchi find their way out of Noggendrill's maze and popping Zoboomafoo's coloured bubbles. In Tent Shadows, kids have to identify shadow images, although it's a bit confusing, because they've hardly been identified when the next series pops up.

Counting Coyotes is a number recognition game, which moves on to addition in level three. Spot the Difference has kids perform the old *Sesame Street* favourite and figure out which thing "is not like the other." Smart Fox has kids find matching images by memorizing what's under cards, er, mounds of dirt.

While some of the games can be amusing and kids will certainly pursue them in their quest for the treasure, none of them bring anything new to the computer game playing experience. We've seen this all before – here it just happens to be moulded to Kratt territory.

The main space for Creature Quest is Animal Junction – a place full of nooks and crannies and interesting items waiting to be explored. Unfortunately, only a limited number of items can be clicked on (eight lead to the actual games) and several do no more than tell you – literally – "there's nothing here!" Too many link to the Creature Notebook, which in itself is wonderful, but doesn't warrant repeat links.

In fact, if more of the games were like Creature Notebook, where kids click on "play" under a video screen for short films on animals (from giraffes to kookaburras) or click on one of three fact buttons for audio, then *Zoboomafoo* would shine.

Software based on a TV show should enhance it. Kids should get the feeling they can "do like the Kratts" – and then some. Take, for example, that window the brothers are always leaning out of. Wouldn't it be nice to click on it ... and go somewhere? But the window does nothing.

Finally, although most instructions are straightforward and thorough, understanding the treasure map is a bit tricky. Turns out once all the puzzle pieces have been collected, an item on the map appears "hot," and that's what you click on when you return to Animal Junction. Once you've found the treasure, you can print out a certificate, of which there are a total of four. But it's not really worth the ink, and will still keep you feeling like you missed that special link that gets you into the world of *Zoboomafoo* ... ◆

more INFO

Zoboomafoo
Ages three to six
$24.99
Brighter Child Interactive
www.learningco.com

Requirements:
PC
Pentium 233 MHz
Windows 95/98/Me/2000/XP
4X speed CD-ROM, 64 MB RAM, 20 MB free hard drive space
16-bit colour, Windows-compatible sound card and speakers

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AMD DURON 1300 139

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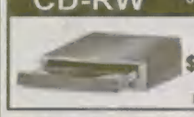

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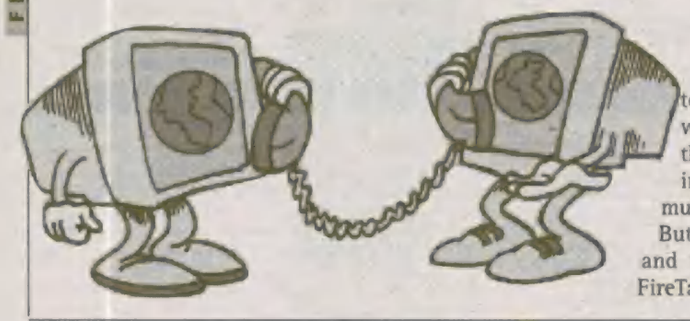
FEATURE

Net phoning still in era of trashy talking



By CARLIE ORESKOVICH

Some things never change. At least they seem to defy change. Take the telephone, for example, which for over 100 years has basically remained the same. The Internet was going to end that, giving us communication convenience, control and a multitude of options at little to no additional cost. But as far as voice is concerned, it's not there yet and the corpses of a number of carriers such as FireTalk, ThinLink and VisiTalk are testimony to that minefield. It's so close but there's no prize yet. And telephone rates have fallen so substantially it is just as cheap and far easier to pick up the phone. Internet telephoning still seems to be a novelty, although making a connection through the Internet is much like the first days of cellular phones when you just had to call someone to say, "You'll never guess (what) I'm calling from."

What you are going to need, first of all, is some speed – a 450 MHz Pentium III with about 128 MB RAM, a decent, full-duplex soundcard and ideally, high speed

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Internet access. Here's a look at a handful of Internet telephone systems.

Go2Call (www.go2call.com)

As with most operators, you need to go to the appropriate Web site to set up an account. Most setups involve downloading software, but Go2Call remains on the Web site and the result is that the program does not use up your memory, although it does not seem to improve launch speed.

You won't be able to access through a desktop icon, but there are some convenient links on the Web site, such as the number finder and the World Time Server, which highlights the location of the country you are calling on a map and the local time, so you know exactly why the connecting party is upset when you call.

Depending on circumstances beyond my control, the sound ranged from clear to muddy. At first there was an echo when I connected, but I took care of that by turning off the speakers and using earphones.

HotTelephone (www.hottelephone.com)

Touted as the hottest "free" PC to phone service, HotTelephone has a number of intriguing enhancements and you still need to deposit funds in order to make these "free" phone calls.

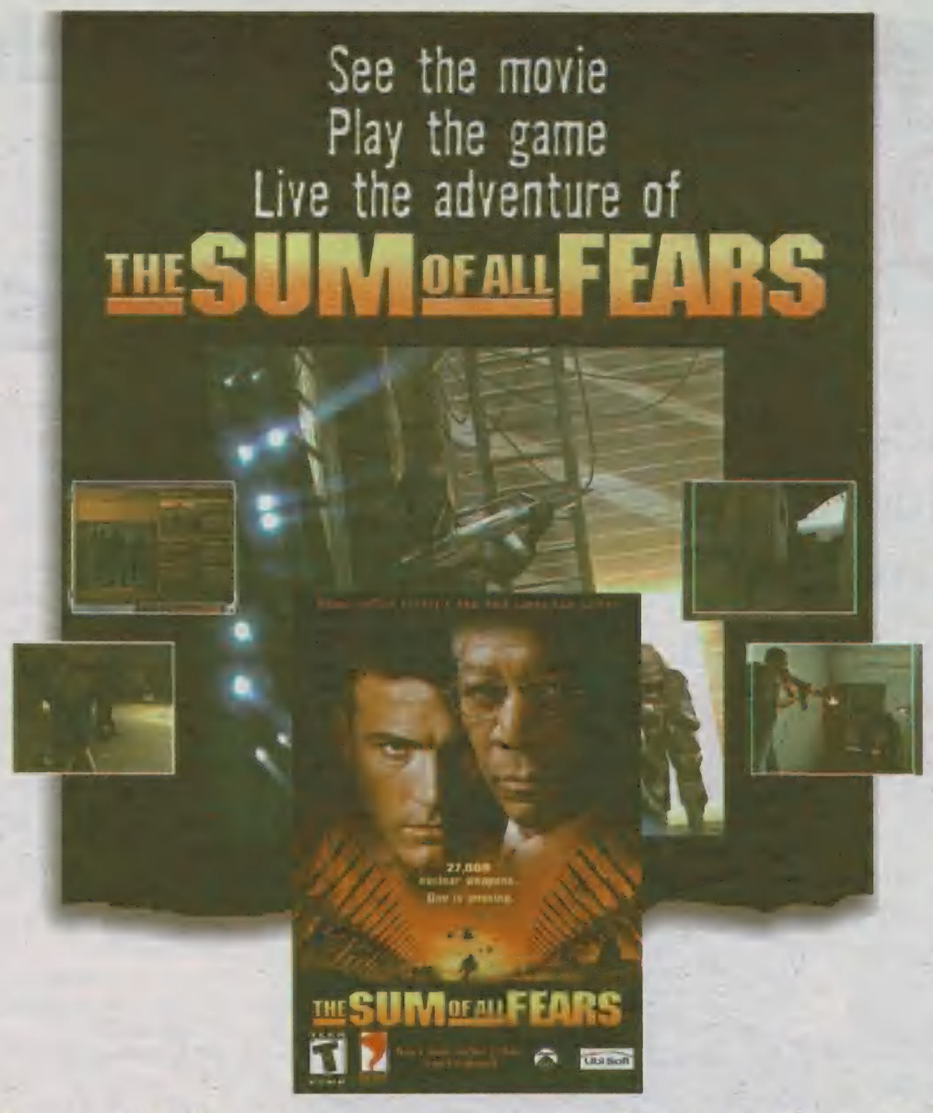
HotTelephone gets off to a good start with an audio test to set up your microphone – a good idea since blasting your caller or having them talk to themselves for a few minutes can be frustrating at worst, entertaining at best. This system prompts you to record your voice as you speak into the microphone so you can verify the quality and hear just what you sound like. If there is a clock ticking in the background you hear it here, and for some reason, everyone sounded like they were missing front teeth.

Through this site's HotTeleLink.com, you can send an e-mail with a voice audio and you can even e-mail a message to a phone number, which can be delivered at some other time. However, in my trial, the quality was poor and the sound was robotic – but fun. And it offers great potential.

Deltathree (www.iconnecthere.com)

In spite of promoting the average rate of 2.9 cents per minute and an "award winning" voice quality over privately managed networks, the quality of sound on this site was also spotty. What the system does have is tough looking dial-in graphics with a choice of three "skins"; missile, pioneer or techno. After a bit of confusion and

continued on page 60



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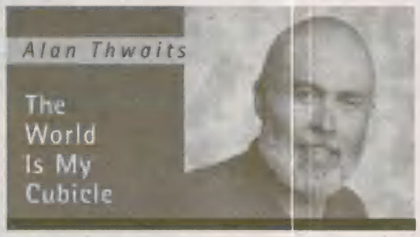
COLUMNS

Is tech too big for us?



One of the great things about writing a column is the responses that come in from readers. What's surprising is that it's not the big ideas that get the mail, but rather the quieter thoughts. An example would be the responses I got from readers of the column that appeared in the April issue of *TC!*, titled "It's not the big stuff."

A number of e-mail messages came down the pipe to say that readers agreed with my cycling friend, the one who thought that computers hadn't done much, if anything at all, to improve the world we live in. One reader did admit owing a big debt to computer-assisted medical technology, basically because it saved his life, but was down on the overall benefits bestowed by computer tech on life in general. Almost all of my correspondents cited the loss of personal contact, the frenzied pace of the media and the manufactured need to own and maintain tech as factors that take away, rather than add to, the quality of our lives.

(Two points I want to interject here. The first is that it's a joy to hear from readers, because it means that at least someone out there is actually reading this stuff. The second is that I'm heartened to know that readers of a computer-oriented publication – whom I assume have more than a passing interest in technology and its uses – place a priority on human interaction over technological "gee whiz.")

It seems these readers aren't alone. I learned only recently that one of the best-selling product lines from high-end stereo manufacturer TEAC is something called Nostalgia – an entire line of equipment with analogue rather than digital innards and old-fashioned turnable knobs rather than tiny, glow in the dark buttons. Web-capable cell phones, which got an awful lot of media buzz a year or so ago, haven't taken off (except in Japan, which is positively fetishistic about technology), for the simple reason that ordinary mortals like to use their phones for, well, talking. Location-based data services (aka GIS, or Geographical Information Systems), which have been marketed as the 21st century way of finding the nearest pizza joint via your cell phone haven't exactly set our world on fire yet, either.

There's a pattern here, I think. Let's be clear that we're not talking about high-end commercial, industrial or military usage – in those rarefied worlds, bleeding-edge tech is fundamental. The focus of our conversation is the real, day-to-day, "I go to work, I come home and then I spend some time relaxing" world we all live in.

For most of us, technology, even computer-related technology, is really more about appliances than gadgetry. In the early days of the personal computer, users spent most of their time and effort simply getting the technology to work. When ordinary people started using modems to get online, we spent inordinate amounts of time fussing with comm settings. The precursor to the cell phone was the clunky car phone, with the external antenna that had to be stowed away when not in use so it wouldn't be stolen. Nowadays, though, buying a computer is like buying a fridge – take it home, plug it in and start using it. Modems come installed and cell phones don't have antennas anymore; they have handsfree options and designer covers.

Clearly, we're far enough into the Information Age that we're beginning to take it for granted. The technology revolution has slowed down mightily. We go to computer shows these days to get good deals on equipment, not to see the latest world-changing technology. Judging from what I see and read, more people are fired up about the possibilities of a boffo home theatre system than about setting up a cutting-edge computer system. And let's face it, home theatre is old tech, in spite of all the hype about digital television. People are spending upwards of $10,000 on state-of-the-art home theatre so they can watch reruns of *Frasier* and the colorized version of *How Green Was My Valley*.

Perhaps technology has just become too much for us. It's gone too fast for too long and we're slowing it down in the only way we can. Or perhaps it's actually the other way around. Perhaps the truth is that technology, for all its promise and pizzazz, will always lag behind humanity, for the very simple reason that we're a whole lot more complex, efficient and downright dazzling than tech. What do you think?

Alan Thwaits, a TC! Contributing Editor, can be reached at praxis@pathcom.com. ✤

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FEATURE

Net phoning
continued from page 57

difficulty, and two days before finally getting to download the dialer, the reconnection was quick and easy.

If you use the North American plan at US$4.95 per month, you get 400 minutes of calls from North America to anywhere in the world at a cost of approximately half a cent a minute. Go over that amount and it will cost you 3.9 cents a minute. But this seems like the best of deals.

Net2Phone (www.net2phone.com)

Net2Phone supplies service for Microsoft and Yahoo for a cents-per-minute fee, but hits you with advertising and a somewhat inconvenient number pad. With their PC service you can call PC to PC and find out when your friends and family are online, then talk and send them text messages.

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Dialpad (www.dialpad.com)

Offers prepaid calling plans of US$10 to US$25 with an online address book. You have to deal with the company ad, but it does have an on-screen address book. Making a connection was inconsistent and sometimes failed.

While Internet telephoning is fun, it will not be much more than that until it is a little more reliable – but that just happens to be the state of affairs right now.

Someday, you should be able to comfortably use your system to dial out at the same time as you are using a program and be a blend of the two. The computer might then become the communications centre it could be. ◆

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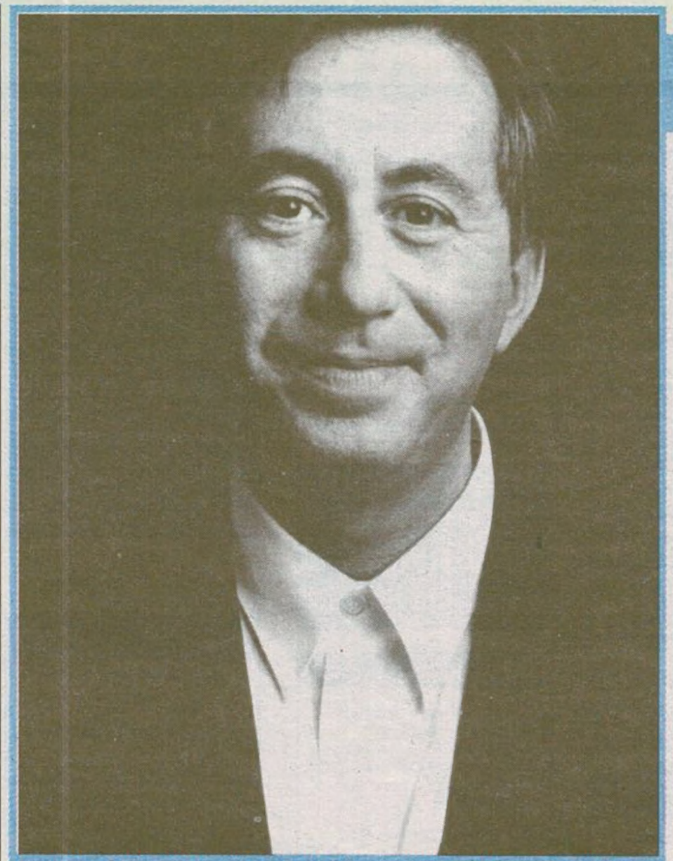

Founder of the Canada-wide chain of comedy clubs known as Yuk Yuk's, Mark Breslin

If you've never heard of Mark Breslin, check your home – you may be living under a rock. Not that there's anything wrong with that. Spanning stage, radio, television and print, the 50-year-old founder of the now Canada-wide chain of comedy clubs known as Yuk Yuk's has made over 5,000 stand-up appearances in his storied career. He's famous and still answers his own phone. That's good enough for us.

Who: Mark Breslin

Computer now used: iMac (Indigo)

Computer first used: Apple 2

Favourite computer: "I like my iMac, but I really like the laptop version."

Other technical gadgetry in use at this time (cell phone, PDA, etc.): Motorola StarTac analogue cell phone. "I only use it for outgoing calls. No one has the number, not even me. I never have to be in minute-to-minute contact with anybody, and I need the privacy."

Do you use your computer for play: No. "Basic usage of e-mail and research only."

Best thing about the technology you have: "I work unusual hours. E-mail allows me to communicate with people at 3 a.m. without bothering them."

Worst thing: "The myriad of attachments that cannot, or will not, be opened by my iMac."

What can't you live without: "The newsgroups' search engines, which let me catch what people are saying about me, and Yuk Yuk's, behind my back."

Is there anything you think you need? "That new iPod looks pretty good, although as I get older I find that music plays a less crucial role in my life."

What frustrates you the most about technology: "There's really no such thing as 'fixing it yourself.'"

Personal take on issues dealing with technology: "When it comes to technology, I try to steer a middle path between Bill Gates and the Unabomber." ◆

-interview by Samson Okalow

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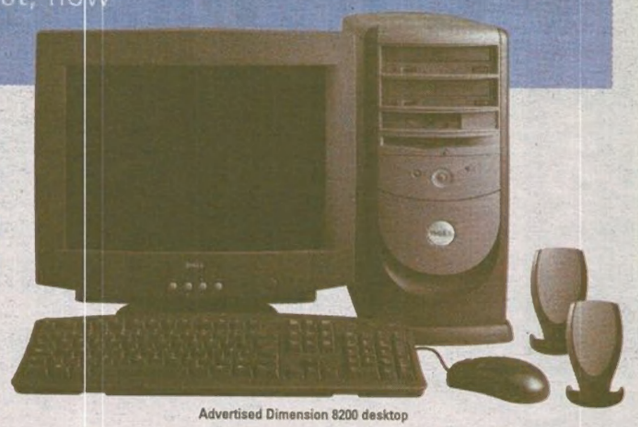

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